Florida Department of Transportation
District 5

DESIGN-BUILD
REQUEST FOR PROPOSAL
For
Central Florida Commuter Rail System Phase 1
Station and Crossing Signal Safety Enhancements
Orange and Seminole Counties

Financial Projects Number(s): 412994-4-52-12
Federal Aid Project Number(s):
Contract Number: E5W95

ATTACHMENTS

The Attachments listed below are hereby incorporated into and made a part of this Request for Proposal (RFP) as though fully set forth herein.

Project Advertisement
Division I Design-Build Specifications
Divisions II and III Special Provisions identified by the Department to be used on the Project
- Mobilization (SP1010000DB)
- Contractor Quality Control General Requirements (SP1050813DB) Structures Foundations (SP4550000DB)

Permits

Required Contract Provisions for Federal Transit Administration Federal-Aid Construction Contracts
Central Florida Operations and Management Agreement (CFOMA) and amendments
Central Florida Commuter Rail Transit (CFCRT) Phase 2 South Station Plans
Amtrak Operating Agreement
FCEN Operating Agreement
CFRC Operating Rules
CFRC Roadway Worker Protection Safety Plan
CFRC Safety Transportation & Responsibility (STAR) Manual
CFRC Timetable No. 2 – latest version
CFRC General Bulletins – latest versions
Orange Fence Policy and Communication Procedure
CFRC Safety and Security Management Plan for Full Funding Grant Agreement (SSMP)
CFRC System Safety Program Plan (SSPP)
CFRC System Security Plan (SSP)
CFRC Safety and Security Certification Plan (SSCP)

Bid Price Proposal Forms:

1. Bid Blank (375-020-17)
2. Design Build Proposal of Proposer (375-020-12)
3. Design Build Bid Proposal Form (700-010-65)
4. Bid or Proposal Bond (375-020-34)
5. DBE Forms (as applicable)

REFERENCE DOCUMENTS

The following documents are being provided with this RFP. Except as specifically set forth in the body of this RFP, these documents are being provided for reference and general information only. They are not

being incorporated into and are not being made part of the RFP, the contract documents or any other document that is connected or related to this Project except as otherwise specifically stated herein. No information contained in these documents shall be construed as a representation of any field condition or any statement of facts upon which the Design-Build Firm can rely upon in performance of this contract. All information contained in these reference documents must be verified by a proper factual investigation. The bidder agrees that by accepting copies of the documents, any and all claims for damages, time or any other impacts based on the documents are expressly waived.

As-Built Plans
Concept Plans

I. Introduction.

The Florida Department of Transportation (Department) has issued this Request for Proposal (RFP) to solicit competitive bids and proposals from Proposers for the **Central Florida Commuter Rail System Phase 1 Station and Crossing Signal Safety Enhancements in Orange and Osceola Counties.**

It is the Department's intent that all Project construction activities be conducted within the existing Right-of-Way. The Design-Build Firm may submit a Technical Proposal that requires the acquisition of additional Right-of-Way if the subject acquisition was approved during the Alternative Technical Concept (ATC) process. Any Technical Proposal that requires the acquisition of additional Right-of-Way will not extend the contract duration as set forth in the Request for Proposal under any circumstances. The Department will have sole authority to determine whether the acquisition of additional Right-of-Way on the Project is in the Department's best interest, and the Department reserves the right to reject the acquisition of additional Right-of-Way.

If a Design-Build Firm intends to submit a Technical Proposal that requires the acquisition of additional Right-of-Way, the Design-Build Firm shall discuss such a proposal with the Department as part of the ATC process. If a Design-Build Firm submits a Technical Proposal that requires the acquisition of additional Right-of-Way and the Design-Build Firm fails to obtain Department approval as part of the ATC process, then the Department will not consider such aspects of the Proposal during the Evaluation process. If the Design-Build Firm's Technical Proposal requires additional Right-of-Way approved by the ATC process, the additional Right-of-Way will be required to be directly acquired by the Department. The Design-Build Firm shall submit, along with the Technical Proposal, Right-of-Way maps and legal descriptions including area in square feet of any proposed additional Right-of-Way parcels in the Technical Proposal. The additional Right-of-Way will be acquired by the Department in accordance with all applicable state and federal laws, specifically including but not limited to the Uniform Relocation Assistance and Real Property Acquisition Policies for Federal and Federally Assisted Programs (42 USC Chapter 61) and its implementing regulations. This includes completing a SEIR/NEPA evaluation as appropriate. All costs concerning the acquisition of additional Right-of-Way will be borne solely by the Design-Build Firm. These costs include, but are not limited to consultant acquisition, appraisal services, court fees, attorney and any expert fees, property cost, etc. The Department will have sole discretion with respect to the entire acquisition process of the additional Right-of-Way.

If the Design-Build Firm's Technical Proposal requires additional Right-of-Way, the acquisition of any such Right-of-Way shall be at no cost to the Department, and all costs associated with securing and making ready for use such Right-of-Way for the Project shall be borne solely by the Design-Build Firm as a part of the Design-Build Firm's Lump Sum Price Bid. The Department will not advance any funds for any such Right-of-Way acquisition and the Design-Build Firm shall bear all risk of delays in the acquisition of the additional property, regardless of cause or source.

The Department will provide to the successful Design-Build Firm an estimate of all costs related to the acquisition and use of the additional Right-of-Way for the project. At the time the Design-Build Firm returns the executed contract to the Department, the Design-Build Firm will provide the Department funds equal to the amount of the Department's estimate along with a Letter of Credit approved by the Department in an amount equal to 100% of the Department's estimate. If additional funds beyond the Department's estimate are anticipated, the Design-Build Firm shall be solely responsible for all such costs and provide the same to the Department upon ten (10) days written notice from the Department. The Letter of Credit is for the purpose of securing the obligations of the Design-Build Firm with respect to the acquisition and use of additional Right-of-Way. The Letter of Credit will be released upon the Department's determination

that all costs related to the acquisition of and making ready for use of the additional Right-of-Way have been satisfied. Any remaining funds provided will be returned to the Design-Build Firm.

Any additional Right-of-Way must be acquired prior to the commencement of any construction on or affecting the subject property. The Design-Build Firm waives any and all rights or claims for information, compensation, or reimbursement of expenses with respect to the Design-Build Firm's payment to the Department for costs associated with the acquisition of the additional Right-of-Way. The additional Right-of-Way cannot be used for any construction activity or other purpose until the Department has issued an applicable parcel clear letter or a Right-of-Way Certification for Construction.

If the Department's attempt to acquire the additional Right-of-Way is unsuccessful, then the Design-Build Firm shall provide a design of the Project within existing Right-of-Way and be required to complete the Project solely for the Lump Sum Price Bid, with no further monetary or time adjustments arising therefrom. Under no circumstances will the Department be liable for any increase in either time or money impacts the Design-Build Firm suffers due to the Design-Build Firm's proposed acquisition of additional Right-of-Way, whether or not the acquisition is successful.

Description of Work

The project includes construction of pedestrian gates and swing gates, and modification of island circuits at the existing SunRail stations; and construction of rail-highway crossing enhancements at various locations. The modifications to the island circuits at the station pedestrian crossings are required so that a stopped SunRail train does not prevent the gates from timing out after initial activation.

The contractor is responsible for final design, construction of all modifications to make the devices fully functional and for testing of the installations. The contractor is responsible for field verifying all information and preparation of the final design plans.

Design and construction of all work shall be in conformance with CFRC Operating Rules.

Station Crossing Work

Crossing Name	***Scope***	***Pedestrian Gate Assemblies***
Debary Station	Add flashers and swing gates for pedestrians, revise island circuits as needed	2
Sanford Station	Add flashers and swing gates for pedestrians, revise island circuits as needed	4
Lake Mary Station	Add flashers and swing gates for pedestrians, revise island circuits as needed	2
Longwood Station	Add flashers and swing gates for pedestrians, revise island circuits as needed	2
Altamonte Station	Add flashers and swing gates for pedestrians, revise island circuits as needed	4

Maitland Station	Add flashers and swing gates for pedestrians, revise island circuits as needed	2
Winter Park Station	Add flashers and swing gates for pedestrians, revise island circuits as needed	4
Florida Hospital Station	Add flashers to existing pedestrian grates, revise island circuits as needed. Install stand-alone flasher signal	4
Lynx Station	Add flashers and swing gates for pedestrians, revise island circuits as needed	2
Church Station	Add flashers and swing gates for pedestrians, revise island circuits as needed. Includes Church and South Street updates.	2
Orlando Health Station	Add flashers and swing gates for pedestrians, revise island circuits as needed	8
Sand Lake Station	Add flashers and swing gates for pedestrians, revise island circuits as needed	4

Highway-Rail Crossing Work

DOT Crossing #	***Mile Post***	***Crossing Name***	***Scope***
622057U	767.07	Southwest Rd.	Add Flashers, gate tip lights, crossbuck sign, track number sign & mast at 1 existing ped gate. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622061J	771.1	W. Airport Blvd.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Install 4 detectable warning surfaces. Install 3 new GE IXC-20S Personality Modules, 3 GE XIP-20B Interface Panels and Mounting Brackets, and 1 GE VIO-86S Personality Module. Electrical Contractor and Signal Engineer to inspect signal cabinet.
915133W	771.59	Egrets Landing Dr.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Install 4 detectable warning surfaces. Install a new GE IXC-20S Personality Module and a GE XIP-20B Interface Panel and Mounting Bracket. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622064E	773.08	N. Palmetto St.	Add Flashers, gate tip lights, crossbuck sign, track number sign & mast at 1 existing ped gate. Install 2 detectable warning surfaces. Electrical Contractor and Signal Engineer to inspect signal cabinet.

622065L	773.35	Lake Mary Blvd.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Replace pedestrian gate arm with longer arm. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622067A	776.12	CR 427-1 / N. Ronald Reagan Blvd.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Install 2 detectable warning surfaces. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622069N	777.46	E. Orange Ave.	Install 1 new pedestrian gate assembly with flashers, gate tip lights, crossbuck sign, and track number sign. Connect new pedestrian gate to signal cabinet with comm wires. Extend sidewalk across the south side of the crossing. Install 2 detectable warning surfaces. Install a new GE IXC-20S Personality Module and a GE XIP-20B Interface Panel and Mounting Bracket. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622071P	777.68	Church Ave.	Add Flashers, gate tip lights, crossbuck sign, track number sign & mast at 1 existing ped gate. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622072W	777.81	CR 427-2 / N. Ronald Reagan Blvd.	Install 2 new pedestrian gate assemblies with flashers, gate tip lights, crossbuck signs, and track number signs. Connect new pedestrian gates to signal cabinet with comm wires. Install 3 new GE IXC-20S Personality Modules, 3 GE XIP-20B Interface Panels and Mounting Brackets, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 2 GE VIO-86S Personality Modules. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622073D	777.91	SR 434	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Replace pedestrian gate arm with longer arm. Install 4 detectable warning surfaces. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622074K	779.01	North St.	Add Flashers, gate tip lights, crossbuck sign, track number sign & mast at 1 existing ped gate. Install 1 detectable warning surface. Install 2 new GE IXC-20S Personality Modules, 2 GE XIP-20B Interface Panels and Mounting Brackets, 1 GE XP-4 Nine Slot Chassis, 3 GE XTI-1S Personality Modules, and 2 GE VIO-86S Personality Modules. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622075S	779.39	CR 427-3 / N. Ronald Reagan Blvd.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Replace pedestrian and vehicle gate arms with longer arms. Install a new GE IXC-20S Personality Module and a GE XIP-20B Interface Panel and Mounting Bracket. Electrical Contractor and Signal Engineer to inspect signal cabinet.

622077F	780.14	Merritt St.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at existing ped gate. Replace pedestrian gate arm with longer arm. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622081V	781.24	Ballard St.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at existing ped gate. Electrical Contractor and Signal Engineer to inspect signal cabinet. Install a new GE IXC-20S Personality Module and a GE XIP-20B Interface Panel and Mounting Bracket. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622082C	781.58	Spring Lake/ O'Brien Rd.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at existing ped gate. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622147T	783.66	Palmetto Ave.	Install two swing gates adjacent to the existing main gates. Install 2 new GE IXC-20S Personality Modules, 2 GE XIP-20B Interface Panels and Mounting Brackets, 1 Battery, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 1 GE VIO-86S Personality Module. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622148A	783.84	Lake Ave.	Add flasher on cantilever. Install 1 short mast pedestrian gate. Install 1 new pedestrian gate assembly with flashers, gate tip lights, crossbuck sign, and track number sign. Install 2 detectable warning surfaces. Connect new pedestrian gates to signal cabinet with comm wires. Install 3 new GE IXC-20S Personality Modules, 3 GE XIP-20B Interface Panels and Mounting Brackets, 1 Battery, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 1 GE VIO-86S Personality Module. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622157Y	785.66	W. Morse Boulevard	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622161N	785.77	W. New England Ave.	Install 2 short mast pedestrian gates. Install 1 new vehicle gate assembly with flashers, gate tip lights, crossbuck sign, and track number sign. Connect new gates to signal cabinet with comm wires. Install 4 detectable warning surfaces. Install 3 new GE IXC-20S Personality Modules, 3 GE XIP-20B Interface Panels and Mounting Brackets, 2 Batteries, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 2 GE VIO-86S Personality Modules. Electrical Contractor and Signal Engineer to inspect signal cabinet.

622171U	787.45	Wilkinson St.	Install 2 short mast pedestrian gates. Remove and relocate existing exit gates in front of the sidewalk. Add a set of flashers to the cantilever. Add additional sidewalk begin the new exit gate in the southeast quadrant. Install 2 new vehicle gate assemblies with flashers, gate tip lights, crossbuck signs, and track number signs. Connect new pedestrian gates and vehicle gates to signal cabinet with comm wires. Install a new GE IXC-20S Personality Module and a GE XIP-20B Interface Panel and Mounting Bracket. Electrical Contractor and Signal Engineer to inspect signal cabinet.
643815C	787.62	King St.	Install 2 short mast pedestrian gates. Remove and relocate existing (west) exit gate in front of the sidewalk. Add a set of flashers to the cantilever. Extend sidewalk across the north side of the crossing. Install 1 new vehicle gate assembly with flashers, gate tip lights, crossbuck sign, and track number sign. Connect new pedestrian gates and vehicle gate to signal cabinet with comm wires. Install a new GE IXC-20S Personality Module and a GE XIP-20B Interface Panel and Mounting Bracket. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622172B	787.8	Rollins St.	Install 2 short mast pedestrian gates. Install 2 new vehicle gate assemblies with flashers, gate tip lights, crossbuck signs, and track number signs. Refocus both obstructed crossbucks. Install sidewalk between the proposed vehicle and pedestrian gates in the northwest corner of the crossing. Connect new pedestrian gates and vehicle gates to signal cabinet with comm wires. Install 3 detectable warning surfaces. Install 3 new GE IXC-20S Personality Modules, 3 GE XIP-20B Interface Panels and Mounting Brackets, 2 Batteries, 1 GE XP-4 Nine Slot Chassis, 4 GE XTI-1S Personality Modules, and 1 GE VIO-86S Personality Module. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622173H	787.99	E. Princeton St.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Install 3 new GE IXC-20S Personality Modules and 3 GE XIP-20B Interface Panels and Mounting Brackets. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622175W	788.68	Alden Rd.	Add flashers on SW gate. Install 2 new GE IXC-20S Personality Modules, 2 GE XIP-20B Interface Panels and Mounting Brackets, 1 Battery, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 1 GE VIO-86S Personality Module. Electrical Contractor and Signal Engineer to inspect signal cabinet.

622178S	788.97	N. Magnolia Ave.	Install 2 short mast pedestrian gates. Install 2 new pedestrian gate assemblies with flashers, gate tip lights, crossbuck signs, and track number signs. Connect new pedestrian gates to signal cabinet with comm wires. Replace vehicle gate arms with longer arms. Install 4 new GE IXC-20S Personality Modules, 4 GE XIP-20B Interface Panels and Mounting Brackets, 2 Batteries, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 2 GE VIO-86S Personality Modules. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622179Y	789.14	Orange Ave.	Install 1 short mast pedestrian gate. Install 3 new pedestrian gate assemblies with flashers, gate tip lights, crossbuck signs, and track number signs. Connect new pedestrian gates to signal cabinet with comm wires. Replace vehicle gate arms with longer arms. Refocus flashers on cantilever for Garland Avenue. Remove 1 existing unused gate. Extend sidewalk across the north side of the crossing. Install 2 detectable warning surfaces. Install 4 new GE IXC-20S Personality Modules, 4 GE XIP-20B Interface Panels and Mounting Brackets, 2 Batteries, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 2 GE VIO-86S Personality Modules. Replace existing batteries with 8-200 Amp batteries with chargers. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622180T	789.22	Marks St.	Install 1 short mast pedestrian gate. Install 1 new pedestrian gate assembly with flashers, gate tip lights, crossbuck sign, and track number sign. Connect new pedestrian gates to signal cabinet with comm wires. Extend sidewalk across the south side of the crossing. Install 2 detectable warning surfaces. Upgrade 2 sets of flashers to the 12" diameter. Install 2 new GE IXC-20S Personality Modules, 2 GE XIP-20B Interface Panels and Mounting Brackets, 2 Batteries, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 1 GE VIO-86S Personality Module. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622181A	789.48	W. Colonial Dr.	Install 1 short mast pedestrian gate. Connect new pedestrian gate to signal cabinet with comm wires. Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Add flashers to west main gate cantilever for far right lane. Install 4 detectable warning surfaces. Install a new GE IXC-20S Personality Module and a GE XIP-20B Interface Panel and Mounting Bracket. Electrical Contractor and Signal Engineer to inspect signal cabinet.

622182G	789.62	W. Concord St.	Install 2 short mast pedestrian gates. Install 2 new pedestrian gate assemblies with flashers, gate tip lights, crossbuck signs, and track number signs. Connect new pedestrian gates to signal cabinet with comm wires. Install 4 detectable warning surfaces. Upgrade 2 sets of flashers to the 12" diameter. Install 3 new GE IXC-20S Personality Modules, 3 GE XIP-20B Interface Panels and Mounting Brackets, 2 Batteries, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 1 GE VIO-86S Personality Module. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622185C	789.86	W. Livingston St.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622187R	790.06	W. Jefferson St.	Add flashers to west main gate, reposition 3 tracks sign above the existing flashers on the cantilever. Upgrade 2 sets of flashers to the 12" diameter. Install 1 new GE IXC-20S Personality Module, 1 GE XIP-20B Interface Panel and Mounting Bracket, 1 Battery, 1 GE XP-4 Nine Slot Chassis, 3 GE XTI-1S Personality Modules, and 1 GE VIO-86S Personality Module. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622188X	790.12	W. Washington St.	Install 3 new pedestrian gate assemblies with flashers, gate tip lights, crossbuck signs, and track number signs. Connect new pedestrian gates to signal cabinet with comm wires. Add flashers to west main gate cantilever for distance visibility. Install 4 detectable warning surfaces. Install 3 new GE IXC-20S Personality Modules, 3 GE XIP-20B Interface Panels and Mounting Brackets, 2 Batteries, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 1 GE VIO-86S Personality Module. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622190Y	790.29	W. Pine St.	Install 2 new pedestrian gate assemblies with flashers, gate tip lights, crossbuck signs, and track number signs. Install 1 new vehicle gate assembly on the west side with flashers, gate tip lights, crossbuck sign, and track number sign. Connect new pedestrian gates and vehicle gate to signal cabinet with comm wires. Install 4 detectable warning surfaces. Install 3 new GE IXC-20S Personality Modules, 3 GE XIP-20B Interface Panels and Mounting Brackets, 2 Batteries, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 2 GE VIO-86S Personality Modules. Electrical Contractor and Signal Engineer to inspect signal cabinet.

622196P	790.82	W. America St.	Install 2 new pedestrian gate assemblies with flashers, gate tip lights, crossbuck signs, and track number signs. Connect new pedestrian gates to signal cabinet with comm wires. Extend sidewalk across the north side of the crossing. Install 2 detectable warning surfaces. Install 3 new GE IXC-20S Personality Modules, 3 GE XIP-20B Interface Panels and Mounting Brackets, 2 Batteries, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 1 GE VIO-86S Personality Module. Electrical Contractor and Signal Engineer to inspect signal cabinet.
622307E	792.29	W. Michigan St.	Add Flashers, gate tip lights, crossbuck signs, track number signs & masts at 2 existing ped gates. Install 2 new GE IXC-20S Personality Modules, 2 GE XIP-20B Interface Panels and Mounting Brackets, 1 Battery, 1 GE XP-4 Nine Slot Chassis, 2 GE XTI-1S Personality Modules, and 2 GE VIO-86S Personality Modules. Electrical Contractor and Signal Engineer to inspect signal cabinet.

The intent of this Project is to replace, repair or rehabilitate all deficiencies within the Project limits such that maintenance work required upon Final Acceptance is limited to routine work.

A. Design-Build Responsibility

The Design-Build Firm shall be responsible for survey, geotechnical investigation, design, preparation of all documentation related to the acquisition of all permits not acquired by the Department, preparation of any and all information required to modify permits acquired by the Department if necessary, maintenance of traffic, demolition, and construction on or before the Project completion date indicated in the Proposal. The Design-Build Firm shall coordinate all utility relocations.

The Design-Build Firm shall be responsible for compliance with Design and Construction Criteria (Section VI) which sets forth requirements regarding survey, design, construction, and maintenance of traffic during construction, requirements relative to Project management, scheduling, and coordination with other agencies and entities such as state and local government, utilities and the public.

The Design-Build Firm shall be responsible for reviewing the approved Environmental Document of the PD&E Study.

The Design-Build Firm is responsible for coordinating with the District Environmental Office any engineering information related to Environmental Reevaluations. The Design-Build Firm will not be compensated for any additional costs or time associated with Reevaluation(s) resulting from proposed design changes.

The Design-Build Firm may propose changes which differ from the approved Interchange Proposal Report (if applicable) and/or the Project Development & Environment (PD&E) Study. Proposed changes must be coordinated through the Department. If changes are proposed to the configuration, the Design-Build Firm shall

be responsible for preparing the necessary analyses and documentation required to satisfy requirements to obtain approval of the Department and , if applicable, FHWA. The Design-Build Firm shall provide the required documentation for review and processing. Approved revisions to the configuration may also be required to be included in the Reevaluation of the National Environmental Policy Act (NEPA) document or State Environmental Impact Report (SEIR) Reevaluations, per Section M (Environmental Services/Permits/Mitigation) of the RFP. The Design-Build Firm will not be compensated for any additional costs or time resulting from proposed changes.

The Design-Build Firm shall examine the Contract Documents and the site of the proposed work carefully before submitting a Proposal for the work contemplated and shall investigate the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished and as to the requirements of all Contract Documents. Written notification of differing site conditions discovered during the design or construction phase of the Project will be given to the Department's Project Manager.

The Design-Build Firm shall examine boring data, where available, and make their own interpretation of the subsoil investigations and other preliminary data, and shall base their bid on their own opinion of the conditions likely to be encountered. The submission of a proposal is prima facia evidence that the Design-Build Firm has made an examination as described in this provision.

The Design-Build Firm shall demonstrate good Project management practices while working on this Project. These include communication with the Department and others as necessary, management of time and resources, and documentation.

B. Department Responsibility

The Department will provide contract administration, management services, construction engineering inspection services, environmental oversight, and quality acceptance reviews of all work associated with the development and preparation of the contract plans, permits, and construction of the improvements. The Department will provide Project specific information and/or functions as outlined in this document.

In accordance with 23 CFR 636.109 of the FHWA, in a Federal Aid project, the Department shall have oversight, review, and approval authority of the permitting process.

The Department will determine the environmental impacts and coordinate with the appropriate agencies during the preparation of NEPA or SEIR Reevaluations. For federal projects, the Department will coordinate and process Reevaluations with FHWA.

II. Schedule of Events.

Below is the current schedule of the events that will take place in the procurement process. The Department reserves the right to make changes or alterations to the schedule as the Department determines is in the best interests of the public. Proposers will be notified sufficiently in advance of any changes or alterations in the schedule. Unless otherwise notified in writing by the Department, the dates indicated below for submission of items or for other actions on the part of a Proposer shall constitute absolute deadlines for those activities and failure to fully comply by the time stated shall cause a Proposer to be disqualified.

Date	Event
05/29/15	Advertisement
06/19/15	Letters of Interest for Phase I of the procurement process due in District Office by 5:00 pm local time
06/30/15	Proposal Evaluators submit Letter of Interest Scores to Contracting Unit 3:00 pm local time
07/03/15	Contracting Unit provides Letter of Interest scores and Proposal Evaluators comments to Selection Committee 3:00 pm local time
07/06/15	Public Meeting of Selection Committee to review and confirm Letter of Interest scores 8:15 am local time
07/06/15	Notification to Responsive Design-Build Firms of the Letter of Interest scores 12:00 pm local time
07/08/15	Deadline for all responsive Design-Build firms to affirmatively declare intent to continue to Phase II of the procurement process 12:00 pm local time
07/08/15	Shortlist Posting 5:00 pm local time
07/21/15	Final RFP provided to Design-Build firms providing Affirmative Declaration of Intent to continue to Phase II of the procurement process
07/27/15	Mandatory Pre-proposal meeting at 10:00 am local time at the SunRail Operations Control Center, 801 SunRail Drive, Sanford FL 32771. All Utility Agency/Owners that the Department contemplates an adjustment, protection, or relocation is possible are to be invited to the mandatory Pre-Proposal meeting.
07/27/15	Utility Pre-Proposal Meeting facilitated by the District Utility Engineer at 11:00 am local time at the SunRail Operations Control Center, 801 SunRail Drive, Sanford FL 32771.
08/03/15	Deadline for Design-Build Firm to request participation in One-on-One Alternative Technical Concept Discussion Meeting No. 1
08/10/15	Deadline for Design-Build Firm to submit preliminary list of Alternative Technical Concepts prior to One-on-One Alternative Technical Concept Discussion Meeting No. 1
08/17/15	One-on-One Alternative Technical Concept Discussion Meeting No. 1. 90 Minutes will be allotted for this Meeting.
08/19/15	Deadline for Design-Build Firm to request participation in One-on-One Alternative Technical Concept Discussion Meeting No. 2
08/26/15	Deadline for Design-Build Firm to submit preliminary list of One-on-One Alternative Technical Concepts prior to Alternative Technical Concept Discussion Meeting No. 2
09/02/15	One-on-One Alternative Technical Concept Discussion Meeting No. 2. 90 Minutes will be allotted for this Meeting.
09/16/15	Deadline for submittal of Alternative Technical Concept Proposals 4:00 pm local time.
09/16/15	Final deadline for submission of requests for Design Exceptions or Design Variations.
09/30/15	Deadline for submittal of questions, for which a response is assured, prior to the submission of the Technical Proposal. All questions shall be submitted to the Pre-Bid Q&A website.
10/07//15	Deadline for the Department to post responses to the Pre-Bid Q&A website for questions submitted by the Design-Build Firms prior to the submittal of the Technical Proposal.

10/12/15	Technical Proposals due in District Office by 2:30 p.m. local time at the District office at 719 South Woodland Boulevard, DeLand, Florida 32720
10/12/15	Deadline for Design-Build for to "opt out" of Technical Proposal Page Turn meeting.
10/20/15	Technical Proposal Page Turn Meeting. Times will be assigned during the Pre-Proposal Meeting. 30 Minutes will be allotted for this Meeting.
11/04/15	Question and Answer Session. Times will be assigned during the pre-proposal meeting. One hour will be allotted for questions and responses.
11/11/15	Deadline for submittal of Written Clarification letter following Question and Answer Session 5:00 pm local time
11/11/15	Deadline for submittal of questions, for which a response is assured, prior to the submission of the Price Proposal. All questions shall be submitted to the Pre-Bid Q&A website.
11/18/15	Deadline for the Department to post responses to the Pre-Bid Q&A website for questions submitted by the Design-Build Firms prior to the submittal of the Price Proposal.
11/23/15	Price Proposals due in District Office by 2:30 pm local time. at the District office at 719 South Woodland Boulevard, DeLand, Florida 32720
11/23/15	Public announcing of Technical Scores and opening of Price Proposals at 2:30 pm local time in 719 South Woodland Boulevard, DeLand, Florida 32720
11/30/15	Public Meeting of Selection Committee to determine intended Award
11/30/15	Posting of the Department's intended decision to Award
12/17/15	Anticipated Award Date
01/08/16	Anticipated Execution Date

III. Threshold Requirements.

A. Qualifications

Proposers are required to be pre-qualified in all work types required for the Project. The technical qualification requirements of Florida Administrative Code (F.A.C.) Chapter 14-75 and all qualification requirements of F.A.C. Chapter 14-22, based on the applicable category of the Project, must be satisfied.

B. Joint Venture Firm

Two or more Firms submitting as a Joint Venture must meet the Joint Venture requirements of Section 14-22.007, F.A.C. Parties to a Joint Venture must submit a Declaration of Joint Venture and Power of Attorney Form No. 375-020-18, prior to the deadline for receipt of Letters of Interest.

If the Proposer is a Joint Venture, the individual empowered by a properly executed Declaration of Joint Venture and Power of Attorney Form shall execute the proposal. The proposal shall clearly identify who will be responsible for the engineering, quality control, and geotechnical and construction portions of the Work.

C. Price Proposal Guarantee

A Price Proposal guaranty in an amount of not less than five percent (5%) of the total bid amount shall

accompany each Proposer's Price Proposal. The Price Proposal guaranty may, at the discretion of the Proposer, be in the form of a cashier's check, bank money order, bank draft of any national or state bank, certified check, or surety bond, payable to the Department. The surety on any bid bond shall be a company recognized to execute bid bonds for contracts of the State of Florida. The Price Proposal guaranty shall stand for the Proposer's obligation to timely and properly execute the contract and supply all other submittals due therewith. The amount of the Price Proposal guaranty shall be a liquidated sum, which shall be due in full in the event of default, regardless of the actual damages suffered. The Price Proposal guaranty of all Proposers' shall be released pursuant to 3-4 of the Division I Design-Build Specifications.

D. Pre-Proposal Meeting

Attendance at the pre-proposal meeting is mandatory. Any affirmatively declared proposer failing to attend will be deemed non-responsive and automatically disqualified from further consideration. The purpose of this meeting is to provide a forum for the Department to discuss with all concerned parties the proposed Project, the design and construction criteria, Critical Path Method (CPM) schedule, and method of compensation, instructions for submitting proposals, Design Exceptions, Design Variations, and other relevant issues. In the event that any discussions at the pre-proposal meeting require, in the Department's opinion, official additions, deletions, or clarifications of the Request for Proposal, the Design and Construction Criteria, or any other document, the Department will issue a written addendum to this Request for Proposals as the Department determines is appropriate. No oral representations or discussions, which take place at the pre-proposal meeting, will be binding on the Department. FHWA will be invited on oversight Projects, in order to discuss the Project in detail and to clarify any concerns. Proposers shall direct all questions to the Departments Question and Answer website:
https://www3b.dot.state.fl.us/BidQuestionsAndAnswers/Proposal.aspx/SearchProposal

E. Technical Proposal Page-Turn Meeting

The Department will meet with each Proposer, formally for thirty (30) minutes, for a page-turn meeting. FHWA will be invited on FA Oversight Projects. The purpose of the page-turn meeting is for the Design-Build Firm to guide the Technical Review Committee through the Technical Proposal, highlighting sections within the Technical Proposal that the Design-Build Firm wishes to emphasize. The page-turn meeting will occur between the date the Technical Proposal is due and the Question and Answer session occurs, per the Schedule of Events section of this RFP. The Department will terminate the page-turn meeting promptly at the end of the allotted time. The Department will record all or part of the page-turn meeting. All recordings will become part of the Contract Documents. The page-turn meeting will not constitute discussions or negotiations. The Design-Build Firm will not be permitted to ask questions of the Technical Review Committee during the page-turn meeting. An unmodified aerial or map of the project limits provided by the Design-Build Firm is acceptable for reference during the page-turn meeting. The unmodified aerial or map may not be left with the Department upon conclusion of the page turn meeting. Use of other visual aids, electronic presentations, handouts, etc., during the page turn meeting is expressly prohibited. Upon conclusion of the thirty (30) minutes, the Technical Review Committee is allowed five (5) minutes to ask questions pertaining to information highlighted by Design-Build Firm. Participation in the page-turn meeting by the Design-Build Firm shall be limited to eight (8) representatives from the Design-Build Firm. Design-Build Firms desiring to opt out of the page-turn meeting may do so by submitting a request to the Department.

F. Question and Answer Session

The Department may meet with each Proposer, formally, for a Question and Answer (Q&A) session**.** FHWA shall be invited on FA Oversight Projects. The purpose of the Q & A session is for the Department to seek clarification and ask questions, as it relates to the Technical Proposal, of the Proposer. The Department may terminate the Q & A session promptly at the end of the allotted time. The Department shall record all or part of the Q & A session. All recordings will become part of the Contract Documents. The Q & A session will not constitute "discussions" or negotiations. Proposers will not be permitted to ask questions of the Department except to ask the meaning of a clarification question posed by the Department. No supplemental materials, handouts, etc. will be allowed to be presented in the Q & A session. No additional time will be allowed to research answers.

Within one (1) week of the Q & A session, the Design-Build Firm shall submit to the Department a written clarification letter summarizing the answers provided during the Q & A session. The questions, answers, and written clarification letter will become part of the Contract Documents and will be considered by the Department as part of the Technical Proposal. The Design-Build Firm shall not include information in the clarification letter which was not discussed during the Q&A session. In the event the Design-Build Firm includes additional information in the clarification letter which was not discussed during the Q&A session and is not otherwise included in the Technical Proposal, such additional information will not be considered by the Department during the evaluation of the Technical Proposal.

The Department will provide some (not necessarily all) proposed questions to each Design-Build Firm as it relates to their Technical Proposal approximately 24 hours before the scheduled Q & A session.

G. Protest Rights

Any person who is adversely affected by the specifications contained in this Request for Proposal must file a notice of intent to protest in writing within seventy-two hours of the posting of this Request for Proposals. Pursuant to Sections 120.57(3) and 337.11, Florida Statutes, and Rule Chapter 28-110, F.A.C., any person adversely affected by the agency decision or intended decision shall file with the agency both a notice of protest in writing and bond within 72 hours after the posting of the notice of decision or intended decision, or posting of the solicitation with respect to a protest of the terms, conditions, and specifications contained in a solicitation and will file a formal written protest within 10 days after the filing of the notice of protest. The formal written protest shall be filed within 10 days after the date of the notice of protest if filed. The person filing the Protest must send the notice of intent and the formal written protest to:

Clerk of Agency Proceedings
Department of Transportation
605 Suwannee Street, MS 58
Tallahassee, Florida 32399-0458

Failure to file a notice of protest or formal written protest within the time prescribed in section 120.57(3), Florida Statutes, or failure to post the bond or other security required by law within the time allowed for filing a bond shall constitute a waiver of proceedings under Chapter 120 Florida Statutes.

H. Non-Responsive Proposals

Proposals found to be non-responsive shall not be considered. Proposals may be rejected if found to be in nonconformance with the requirements and instructions herein contained. A proposal may be found to be

non-responsive by reasons, including, but not limited to, failure to utilize or complete prescribed forms, conditional proposals, incomplete proposals, indefinite or ambiguous proposals, failure to meet deadlines and improper and/or undated signatures.

Other conditions which may cause rejection of proposals include evidence of collusion among Proposers, obvious lack of experience or expertise to perform the required work, submission of more than one proposal for the same work from an individual, firm, joint venture, or corporation under the same or a different name (also included for Design-Build Projects are those proposals wherein the same Engineer is identified in more than one proposal), failure to perform or meet financial obligations on previous contracts, employment of unauthorized aliens in violation of Section 274A (e) of the Immigration and Nationalization Act, or in the event an individual, firm, partnership, or corporation is on the United States Comptroller General's List of Ineligible Design-Build Firms for Federally Financed or Assisted Projects.

The Department will not give consideration to tentative or qualified commitments in the proposals. For example, the Department will not give consideration to phrases as "we may" or "we are considering" in the evaluation process for the reason that they do not indicate a firm commitment.

Proposals will also be rejected if not delivered or received on or before the date and time specified as the due date for submission.

I. Waiver of Irregularities

The Department may waive minor informalities or irregularities in proposals received where such is merely a matter of form and not substance, and the correction or waiver of which is not prejudicial to other Proposers. Minor irregularities are defined as those that will not have an adverse effect on the Department's interest and will not affect the price of the Proposals by giving a Proposer an advantage or benefit not enjoyed by other Proposers.

1. Any design submittals that are part of a proposal shall be deemed preliminary only.

2. Preliminary design submittals may vary from the requirements of the Design and Construction Criteria. The Department, at their discretion, may elect to consider those variations in awarding points to the proposal rather than rejecting the entire proposal.

3. In no event will any such elections by the Department be deemed to be a waiving of the Design and Construction Criteria.

4. The Proposer who is selected for the Project will be required to fully comply with the Design and Construction Criteria for the price bid, regardless that the proposal may have been based on a variation from the Design and Construction Criteria.

5. Proposers shall identify separately all innovative aspects as such in the Technical Proposal. An innovative aspect does not include revisions to specifications or established Department policies. Innovation should be limited to Design-Build Firm's means and methods, roadway alignments, approach to Project, use of new products, new uses for established products, etc.

6. The Proposer shall obtain any necessary permits or permit modifications not already provided.

7. Those changes to the Design Concept may be considered together with innovative construction techniques, as well as other areas, as the basis for grading the Technical Proposals in the area of innovative measures.

J. Modification or Withdrawal of Technical Proposal

Proposers may modify or withdraw previously submitted Technical Proposals at any time prior to the Technical Proposal due date. Requests for modification or withdrawal of a submitted Technical Proposal shall be in writing and shall be signed in the same manner as the Technical Proposal. Upon receipt and acceptance of such a request, the entire Technical Proposal will be returned to the Proposer and not considered unless resubmitted by the due date and time. Proposers may also send a change in sealed envelope to be opened at the same time as the Technical Proposal provided the change is submitted prior to the Technical Proposal due date.

K. Department's Responsibilities

This Request for Proposal does not commit the Department to make studies or designs for the preparation of any proposal, nor to procure or contract for any articles or services.

The Department does not guarantee the details pertaining to borings, as shown on any documents supplied by the Department, to be more than a general indication of the materials likely to be found adjacent to holes bored at the site of the work, approximately at the locations indicated.

L. Design-Build Contract

The Department will enter into a Lump Sum contract with the successful Design-Build Firm. In accordance with Section V, the Design-Build Firm will provide a schedule of values to the Department for their approval. The total of the Schedule of Values will be the lump sum contract amount.

The terms and conditions of this contract are fixed price and fixed time. The Design-Build Firm's submitted bid (time and cost) is to be a lump sum bid for completing the scope of work detailed in the Request for Proposal.

IV. Disadvantaged Business Enterprise (DBE) Program.

A. DBE Availability Goal Percentage:

The Department of Transportation has an overall, race-neutral DBE goal. This means that the State's goal is to spend a portion of the highway dollars with Certified DBE's as prime Design-Build Firms or as subcontractors. Race-neutral means that the Department believes that the overall goal can be achieved through the normal competitive procurement process. The Department has reviewed this Project and assigned a DBE availability goal shown in the Project Advertisement and on the bid blank/contract front page under "% DBE Availability Goal". The Department has determined that this DBE percentage can be achieved on this Project based on the number of DBE's associated with the different types of work that will be required.

Under 49 Code of Federal Regulations Part 26, if the overall goal is not achieved, the Department may be required to return to a race-conscious program where goals are imposed on individual contracts. The

Department encourages Design-Build Firms to actively pursue obtaining bids and quotes from Certified DBE's.

The Department is reporting to the Federal Transit Administration the planned commitments to use DBE's. This information is being collected through the Department's Equal Opportunity Compliance (EOC) system.

B. DBE Supportive Services Providers:

The Department has contracted with a consultant, referred to as DBE Supportive Services Provider, to provide managerial and technical assistance to DBE's. This consultant is also required to work with prime Design-Build Firms, who have been awarded contracts, to assist in identifying DBE's that are available to participate on the Project. The successful Design-Build Firm should meet with the DBE Supportive Services Provider to discuss the DBE's that are available to work on this Project. The current DBE Supportive Services Provider for the State of Florida can be found in the Equal Opportunity website at: http://www.dot.state.fl.us/equalopportunityoffice/serviceproviders.shtm

C. Bidders Opportunity List:

The Federal DBE Program requires States to maintain a database of all Firms that are participating, or attempting to participate, on DOT-assisted contracts. The list must include all Firms that bid on prime contracts or bid or quote subcontracts on DOT-assisted Projects, including both DBE's and Non-DBE's.

A Bid Opportunity List should be submitted through the Equal Opportunity Compliance system which is available at the Equal Opportunity Office Website. This information should be returned to the Equal Opportunity Office within 3 days of submission.

V. Project Requirements and Provisions for Work.

A. Governing Regulations:

The services performed by the Design-Build Firm shall be in compliance with all applicable Manuals and Guidelines including the Department, FHWA, FTA, AASHTO, and additional requirements specified in this document. Except to the extent inconsistent with the specific provisions in this document, the current edition, including updates, of the following Manuals and Guidelines shall be used in the performance of this work. Current edition is defined as the edition in place and adopted by the Department at the date of advertisement of this contract with the exception of the Standard Specifications for Road and Bridge Construction (Divisions II & III), Special Provisions and Supplemental Specifications, Manual on Uniform Traffic Control Devices (MUTCD), Design Standards and Revised Index Drawings. The Design-Build Firm shall use the edition of the Standard Specifications for Road and Bridge Construction (Divisions II & III), Special Provisions and Supplemental Specifications, Design Standards and Revised Index Drawings in effect at the time the bid price proposals are due in the District Office. The Design-Build Firm shall use the 2009 edition of the MUTCD (as amended in 2012). It shall be the Design-Build Firm's responsibility to acquire and utilize the necessary manuals and guidelines that apply to the work required to complete this Project. The services will include preparation of all documents necessary to complete the Project as described in Section I of this document.

1. Florida Department of Transportation Roadway Plans Preparation Manuals (PPM) http://www.dot.state.fl.us/rddesign/PPMManual/PPM.shtm

2. Florida Department of Transportation Specifications Package Preparation Procedure http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/630010005.pdf

3. Florida Department of Transportation Design Standards
http://www.dot.state.fl.us/rddesign/DesignStandards/Standards.shtm

4. Florida Department of Transportation Standard Specifications for Road and Bridge Construction (Divisions II & III), Special Provisions and Supplemental Specifications
http://www.dot.state.fl.us/specificationsoffice/Default.shtm

5. Florida Department of Transportation Surveying Procedure
http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/550030101.pdf

6. Florida Department of Transportation EFB User Handbook (Electronic Field Book)
http://www.dot.state.fl.us/surveyingandmapping/doc_pubs.shtm

7. Florida Department of Transportation Drainage Manual
http://www.dot.state.fl.us/rddesign/Drainage/ManualsandHandbooks.shtm

8. Florida Department of Transportation Soils and Foundations Handbook
http://www.dot.state.fl.us/structures/Manuals/SFH.pdf

9. Florida Department of Transportation Structures Manual
http://www.dot.state.fl.us/structures/DocsandPubs.shtm

10. Florida Department of Transportation Current Structures Design Bulletins
http://www.dot.state.fl.us/structures/Memos/currentbulletins.shtm

11. Florida Department of Transportation Computer Aided Design and Drafting (CADD) Manual
http://www.dot.state.fl.us/ecso/downloads/publications/Manual/default.shtm

12. Florida Department of Transportation Computer Aided Design and Drafting (CADD) Production Criteria Handbook
http://www.dot.state.fl.us/ecso/downloads/publications/CriteriaHandBook/

13. Florida Department of Transportation Production Criteria Handbook CADD Structures Standards
http://www.dot.state.fl.us/ecso/downloads/publications/CriteriaHandBook/

14. Instructions for Design Standards
http://www.dot.state.fl.us/structures/IDS/IDSportal.pdf

15. AASHTO – A Policy on Geometric Design of Highways and Streets
https://bookstore.transportation.org/collection_detail.aspx?ID=110

16. MUTCD - 2009
http://mutcd.fhwa.dot.gov/

17. Safe Mobility For Life Program Policy Statement
http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/000750001.pdf

18. Traffic Engineering and Operations Safe Mobility for Life Program
http://www.dot.state.fl.us/trafficoperations/Operations/SafetyisGolden.shtm

19. Florida Department of Transportation American with Disabilities Act (ADA) Compliance – Facilities Access for Persons with Disabilities Procedure
http://www2.dot.state.fl.us/proceduraldocuments/procedures/bin/625020015.pdf

20. Florida Department of Transportation Florida Sampling and Testing Methods
http://www.dot.state.fl.us/statematerialsoffice/administration/resources/library/publications/fstm/disclaimer.shtm

21. Florida Department of Transportation Flexible Pavement Coring and Evaluation Procedure
http://www.dot.state.fl.us/statematerialsoffice/administration/resources/library/publications/materialsmanual/documents/v1-section32-clean.pdf

22. Florida Department of Transportation Design Bulletins and Update Memos
http://www.dot.state.fl.us/rddesign/Bulletin/Default.shtm

23. Florida Department of Transportation Utility Accommodation Manual
http://www.dot.state.fl.us/specificationsoffice/utilities/UAM.shtm

24. AASHTO LRFD Bridge Design Specifications
https://bookstore.transportation.org/category_item.aspx?id=BR

25. Florida Department of Transportation Flexible Pavement Design Manual
http://www.dot.state.fl.us/rddesign/PM/publicationS.shtm

26. Florida Department of Transportation Rigid Pavement Design Manual
http://www.dot.state.fl.us/rddesign/PM/publicationS.shtm

27. Florida Department of Transportation Pavement Type Selection Manual
http://www.dot.state.fl.us/rddesign/PM/publicationS.shtm

28. Florida Department of Transportation Right-of-Way Manual
http://www.dot.state.fl.us/rightofway/Documents.shtm

29. Florida Department of Transportation Traffic Engineering Manual
http://www.dot.state.fl.us/TrafficOperations//Operations/Studies/TEM/TEM.shtm

30. Florida Department of Transportation Intelligent Transportation System Guide Book
http://www.dot.state.fl.us/TrafficOperations/Doc_Library/Doc_Library.shtm

31. Federal Highway Administration Checklist and Guidelines for Review of Geotechnical Reports and Preliminary Plans and Specifications
http://www.fhwa.dot.gov/engineering/geotech/pubs/reviewguide/checklist.cfm

32. AASHTO Guide for the Development of Bicycle Facilities
https://bookstore.transportation.org/collection_detail.aspx?ID=116

33. Federal Highway Administration Hydraulic Engineering Circular Number 18 (HEC 18).
http://www.fhwa.dot.gov/engineering/hydraulics/library_arc.cfm?pub_number=17

34. Florida Department of Transportation Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways
http://www.dot.state.fl.us/rddesign/FloridaGreenbook/FGB.shtm

35. Florida Department of Transportation Project Development and Environment Manual, Parts 1 and 2
http://www.dot.state.fl.us/emo/pubs/pdeman/pdeman1.shtm

36. Florida Department of Transportation Driveway Information Guide
http://www.dot.state.fl.us/planning/systems/programs/sm/accman/pdfs/driveway2008.pdf

37. AASHTO Highway Safety Manual

http://www.highwaysafetymanual.org/

38. Florida Statutes
http://www.leg.state.fl.us/Statutes/index.cfm?Mode=View%20Statutes&Submenu=1&Tab=statutes&CFID=14677574&CFTOKEN=80981948
39. AREMA Manual for Railway Engineering – Annual Publication
http://www.arema.org/eseries/scriptcontent/index.cfm

40. AREMA Communications & Signals Manual of Recommended Practices
http://www.arema.org/eseries/striptcontent/index.cfm

41. Handbook for streambed Erosion Hazard Recognition and Countermeasures for Railroad Embankments & Bridges
http://www.arema.org/eseries/striptcontent/index.cfm

42. Federal Railroad Administration Safety Rules Safety Laws, Title 49, United States Code, Part 2014, Railroad Workplace Safety
http://www.access.gpo/gov/uscode/title49/dubtitlev_,html

43. Federal Transit Laws, Title 49, United States Code, Chapter 53
http://www.fta.dot.gov/leg_reg.html

44. FTA Master Agreement
http://www.fta.dot.gov/documents/15-Master.pdf

45. Federal Communication Commission Rules and Regulations, Title 47 CFR
http://wireless.fee.gov/indez.htm?job=rules_and_regulations

B. Innovative Aspects:

All innovative aspects shall be identified separately as such in the Technical Proposal.

An innovative aspect does not include revisions to specifications, standards or established Department policies. Innovation should be limited to Design-Build Firm's means and methods, roadway alignments, approach to Project, etc.

1. Alternative Technical Concept (ATC) Proposals

The ATC process allows innovation, flexibility, time and cost savings on the design and construction of Design-Build Projects while providing the best value for the public. Any deviation from the RFP that the Design-Build Firms seeks to obtain approval to utilize prior to Technical Proposal submission is, by definition, an ATC and therefore must be submitted to the Department for consideration through the ATC process. Any proposed material or technology not addressed by the RFP is considered an ATC and therefore must be submitted to the Department for consideration through the ATC process. The proposed ATC shall provide an approach that is equal to or better than the requirements of the RFP, as determined by the Department. ATC Proposals which reduce scope, quality, performance, or reliability should not be proposed. A proposed concept does not meet the definition of an ATC if the concept is contemplated by the RFP.

The Department will keep all ATC submissions confidential prior to the Final Selection of the Proposer to

the fullest extent allowed by law, with few exceptions. Although the Department will issue an addendum for all ATC Proposals contained in the list below, the Department will endeavor to maintain confidentiality of the Design-Build Firms specific ATC proposal. Prior to approving ATC's which would result in the issuance of an Addendum as a result of the item being listed below, the Design-Build Firm will be given the option to withdraw previously submitted ATC proposals. Any approved ATC Proposal related to following requirements described by this RFP shall result in the issuance of an Addendum to the RFP:

- Communication Systems
- Signal Systems

2. One-on-One ATC Proposal Discussion Meetings

One-on-One ATC discussion meetings may be held in order for the Design-Build Firm to describe proposed changes to supplied basic configurations, Project scope, design criteria, and/or construction criteria. Each Design-Build Firm with proposed changes may request a One-on-One ATC discussion meeting to describe the proposed changes. The Design-Build Firm shall provide, by the deadline shown in the Schedule of Events of this RFP, a preliminary list of ATC proposals to be reviewed and discussed during the One-on-One ATC discussion meetings. This list may not be inclusive of all ATC's to be discussed but it should be sufficiently comprehensive to allow the Department to identify appropriate personnel to participate in the One-on-One ATC discussion meetings. The purpose of the One-on-One ATC discussion meeting is to discuss the ATC proposals, answer questions that the Department may have related to the ATC proposal, review other relevant information and when possible establish whether the proposal meets the definition of an ATC thereby requiring the submittal of a formal ATC submittal. The meeting should be between representatives of the Design-Build Firm and/or the Design-Build Engineer of Record and District/Central Office staff as needed to provide feedback on the ATC proposal. Immediately prior to the conclusion of the One-on-One ATC discussion meeting, the Department will advise the Design-Build Firm as to the following related to the ATC proposals which were discussed:

- The Proposal meets the criteria established herein as a qualifying ATC Proposal; therefore an ATC Proposal submission IS required, or
- The Proposal does not meet the criteria established herein as a qualifying ATC proposal since the Proposal is already allowed or contemplated by the original RFP; therefore an ATC Proposal submission is NOT required.

3. Submittal of ATC Proposals

All ATC submittals must be in writing and may be submitted at any time following the Shortlist Posting but shall be submitted prior to the deadline shown in the Schedule of Events of this RFP.

All ATC submittals are required to be on roll plots no larger than 36" or plan sheets and shall be sequentially numbered and include the following information and discussions:

a) Description: A description and conceptual drawings of the configuration of the ATC or other appropriate descriptive information, including, if appropriate, product details and a traffic operational analysis;

b) Usage: The locations where and an explanation of how the ATC would be used on the Project;

c) Deviations: References to requirements of the RFP which are inconsistent with the proposed ATC, an explanation of the nature of the deviations from the requirements and a request for approval of such deviations along with suggested changes to the requirements of the RFP which would allow the alternative proposal;

d) Analysis: An analysis justifying use of the ATC and why the deviation, if any, from the requirements of the RFP should be allowed;

e) Impacts: A preliminary analysis of potential impacts on vehicular traffic (both during and after construction), environmental impacts, community impacts, safety, and life-cycle Project and infrastructure costs, including impacts on the cost of repair, maintenance, and operation;

f) Risks: A description of added risks to the Department or third parties associated with implementation of the ATC;

g) Quality: A description of how the ATC is equal or better in quality and performance than the requirements of the RFP;

h) Operations: Any changes in operation requirements associated with the ATC, including ease of operations;

i) Maintenance: Any changes in maintenance requirements associated with the ATC, including ease of maintenance;

j) Anticipated Life: Any changes in the anticipated life of the item comprising the ATC;

4. Review and Approval of ATC Submittals

After receipt of the ATC submittal, the District Design Engineer (DDE), or designee, will communicate with the appropriate staff (i.e. District Structures Design Engineer, District Construction Engineer, District Maintenance Engineer, State Structures Engineer, State Roadway Design Engineer, FHWA, as applicable) as necessary, and respond to the Design-Build Firm in writing within 14 calendar days of receipt of the ATC submittal as to whether the ATC is acceptable, not acceptable, or requires additional information. If the DDE, or designee, determines that more information is required for the review of an ATC, questions should be prepared by the DDE, or designee, to request and receive responses from the Design-Build Firm. The review should be completed within 14 calendar days of the receipt of the ATC submittal. If the review will require additional time, the Design-Build Firm should be notified in advance of the 14 day deadline with an estimated timeframe for completion.

Approved Design Exceptions or Design Variations required as part of an approved ATC submittal will result in the issuance of an addendum to the RFP notifying all Shortlisted Design-Build Firms of the approved Design Exception(s) or Design Variation(s). Such a change will be approved by FHWA, as

applicable. Prior to approving ATC's which would result in the issuance of an Addendum as a result of a Design Exception and/or Design Variation, the Design-Build Firm will be given the option to withdraw previously submitted ATC proposals.

The Department reserves the right to disclose to all Design-Build Firms, via an Addendum to the RFP, any errors of the RFP that are identified during the One-on-One ATC meetings, except to the extent that the Department determines, in its sole discretion, such disclosure would reveal confidential or proprietary information of the ATC.

ATC's are accepted by the Department at the Department's discretion and the Department reserves the right to reject any ATC submitted. The Department reserves the right to issue an Addendum to the RFP based upon a previously denied ATC Proposal, without regard to the confidentiality of the denied ATC Proposal.

The Project file will clearly document all communications with any Design-Build Firm.

5. Incorporation of Approved ATC's into the Technical Proposal

The Design-Build Firm will have the option to include any Department Approved ATC's in the Technical Proposal. The Proposal Price should reflect any incorporated ATC's. All approved ATC's that are incorporated into the Technical Proposal must be clearly identified in the Technical Proposal Plans and/or Roll Plots. The Technical Proposal shall also include a listing of the incorporated, approved ATCs.

By submitting a Proposal, the Design-Build Firm agrees, if it is not selected, to disclosure of its work product to the successful Design-Build Firm, only after receipt of the designated stipend (if applicable) or after award of the contract whichever occurs first.

C. Geotechnical Services:

1. **General Conditions**:

The Design-Build Firm shall be responsible for identifying and performing any geotechnical investigation, analysis and design of foundations, foundation construction, foundation load and integrity testing, and inspection dictated by the Project needs in accordance with Department guidelines, procedures and specifications. All geotechnical work necessary shall be performed in accordance with the Governing Regulations. The Design-Build Firm shall be solely responsible for all geotechnical aspects of the Project.

D. Department Commitments:

The Design-Build Firm will be responsible for adhering to the project commitments identified below:

- Coordination with the Operations and Maintenance Contractor and Signal Maintenance of Way Contractor.
- Maintain railroad operations in accordance with the CFOMA, Amtrak Operating Agreement and FCEN Agreement.

E. Environmental Permits:

1. Storm Water and Surface Water:

Plans shall be prepared in accordance with Chapters 373 and 403 (F.S.) and Chapters 40 and 62 (F.A.C.).

2. Permits:

The Design-Build Firm shall be responsible for modifying the issued permits as necessary to accurately depict the final design. The Design-Build Firm shall be responsible for any necessary permit time extensions or re-permitting in order to keep the environmental permits valid throughout the construction period. The Design-Build Firm shall provide the Department with draft copies of any and all permit applications, including responses to agency Requests for Additional Information, requests to modify the permits and/or requests for permit time extensions, for review and approval by the Department prior to submittal to the agencies.

All applicable data shall be prepared in accordance with Chapter 373 and 403, Florida Statutes, Chapters 40 and 62, F.A.C.; Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, 23 CFR 771, 23 CFR 636, and parts 114 and 115, Title 33, Code of Federal Regulations. In addition to these Federal and State permitting requirements, any dredge and fill permitting required by local agencies shall be prepared in accordance with their specific regulations. Preparation of all documentation related to the acquisition of all applicable permits will be the responsibility of the Design-Build Firm. Preparation of complete permit packages will be the responsibility of the Design-Build Firm. The Design-Build Firm is responsible for the accuracy of all information included in permit application packages. As the permittee, the Department is responsible for reviewing, approving, and signing, the permit application package including all permit modifications, or subsequent permit applications. This applies whether the project is Federal or state funded. Once the Department has approved the permit application, the Design-Build Firm is responsible for submitting the permit application to the environmental permitting agency. A copy (electronic and hard copy) of any and all correspondence with any of the environmental permitting agencies shall be sent to the District Environmental Management Office. If any agency rejects or denies the permit application, it is the Design-Build Firm's responsibility to make whatever changes necessary to ensure the permit application is approved. The Design-Build Firm shall be responsible for any necessary permit extensions or re-permitting in order to keep the environmental permits valid throughout the construction period. The Design-Build Firm shall provide the Department with draft copies of any and all permit applications, including responses to agency Requests for Additional Information, requests to modify the permits and/or requests for permit extensions, for review and approval by the Department prior to submittal to the agencies.

The Design-Build Firm will be required to pay all permit fees. Any fines levied by permitting agencies shall be the responsibility of the Design-Build Firm. The Design-Build Firm shall be responsible for complying with all permit conditions.

The Department is responsible for providing mitigation of all wetland impacts identified in the following documents If any design modifications by the Design-Build Firm propose to increase the amount of these wetland impacts, the Design-Build Firm shall be responsible for providing the Department information on the amount and type of wetland impacts as soon as the impacts are identified (including temporary impacts and/or any anticipated impacts due to construction staging or construction methods). Prior to submitting a permit modification to a regulatory agency, the Design-Build Firm shall provide the Department a draft of all supporting information. The Department will have up to 15 calendar days (excluding weekends and

Department observed holidays) to review and comment on the draft permit package. The Design-Build Firm will address all comments by the Department and obtain Department approval, prior to submittal of the draft permit. The Design-Build Firm shall be solely responsible for all time and costs associated with providing the required information to the Department, as well as the time required by the Department to perform its review of the permit package, prior to submittal of the permit application(s) by the Design-Build Firm to the regulatory agency(ies).

Any additional mitigation required due to design modifications proposed by the Design-Build Firm shall be the responsibility of the Design-Build Firm and shall be satisfied through the purchase of mitigation bank credits. The Design-Build Firm shall purchase credits directly from a permitted mitigation back. In the event that permitted mitigation bank credits are unavailable or insufficient to meet the project needs, the Design-Build Firm will be responsible for providing alternative mitigation consistent with the provisions of section 373.4173, Florida Statutes, and acceptable to the permitting agency(ies). The Design-Build Firm shall be solely responsible for all costs associated with permitting activities and shall include all necessary permitting activities in their schedule.

However, notwithstanding anything above to the contrary, upon the Design-Build Firm's preliminary request for extension of Contract Time, pursuant to 8-7.3, being made directly to the District Construction Engineer, the Department reserves unto the District Construction Engineer, in their sole and absolute discretion, according to the parameters set forth below, the authority to make a determination to grant a non-compensable time extension for any impacts beyond the reasonable control of the Design-Build Firm in securing permits. Furthermore, as to any such impact, no modification provision will be considered by the District Construction Engineer unless the Design-Build Firm clearly establishes that it has continuously from the beginning of the Project aggressively, efficiently and effectively pursued the securing of the permits including the utilization of any and all reasonably available means and methods to overcome all impacts. There shall be no right of any kind on behalf of the Design-Build Firm to challenge or otherwise seek review or appeal in any forum of any determination made by the District Construction Engineer under this provision.

F. Railroad Coordination:

The Design-Build Firm shall be responsible for providing all required railroad On-Track/Roadway Worker Protection services, including Employee-in-Charge (EIC) providing positive protection, Point of Contact (POC) and Watchman/Look-out for the design and construction activities within the corridor. The On-Track/Roadway Worker Protection services shall be compliance with the CFRC Roadway Worker Protection Safety Plan, CFRC Operating Rules, CFRC S.T.A.R Manual and CFRC Orange Fence Policy included as attachments to this RFP.

The Design-Build Firm must comply with the terms of the agreements with the tenant railroads that are included as attachments to this RFP. The Design-Build Firm is responsible for coordinating track outages and work windows with CFRC staff.

The Department requires the Design-Build Firm to comply with the Safety and Security Management Plan for the CFRC, included as an attachment to this RFP. The Design-Build Firm is required to coordinate with the Department in the preparation and implementation of a project specific System Safety Program Plan and System Security Plan to establish the roles, responsibilities and communication requirements and protocols for all organizations working within the project corridor as described in Section VI.Z of this RFP. Once the System Safety Program Plan is accepted by the Department, the Design-Build Firm must comply with all requirements of said plan including signing an agreement with all plan participants.

The Department has Bombardier under contract for dispatching train traffic on the CFRC. The Design-Build Firm shall install a dedicated direct dial-up telephone line for the purpose of permitting CFRC staff to communicate with the Design-Build Firm regarding track outages, CFRC Operating Rule 707 provisions and other construction related coordination for the operations on the CFRC corridor. The Design-Build Firm shall use existing CFRC Dispatcher Channel 097 for communications between its Employee-in-Charge (EIC) and the dispatchers at the OCC. The Design-Build Firm shall be governed by and subject to CFRC Operating Rules and FRA regulations governing work on the track, operating equipment, and working near equipment being operated, including emergency procedures, as agreed to by the Department. The Design-Build Firm shall designate personnel who are responsible for communications and coordination with the CFRC who will coordinate with the dispatchers for all construction activities, for all track occupancy, track outages and for returning track to service. The EIC shall be responsible for establishing and releasing the on-track protection with the dispatchers at the OCC. Unless explicitly approved by the Department in advance, the track shall be deemed returned to operational service by the Design-Build Firm only when the track is restored, allows freight and passenger speeds that are equal to or greater than the current operating speeds, and the signal system is operational to allow all trains to proceed on signal indication where currently supported.

The Department has Herzog under contract for maintaining the existing wayside signal and grade crossing warning systems on the CFRC. The Design-Build Firm shall coordinate all work efforts for signal cutovers with Herzog and not interfere with Herzog maintenance of the existing systems.

The Design-Build Firm shall be responsible for adopting and implementing a Railroad Worker Protection Safety Program for all work on the CFRC system. This program shall be in compliance with the Title 49, CFR 214 Roadway Worker Protection regulations; Title 49, CFR 234 Grade Crossing Signal Safety; other applicable FRA-mandated training requirements; CFRC Roadway Worker Protection Manual; CFRC Operating Rules; CFRC S.T.A.R. Manual and the CFRC Orange Fence Policy. This program shall include training, qualification and certification, record keeping, and retraining of all Design-Build Firm employees requiring access to the railroad right-of-way during the contract time. Title 49 CFR 214, Subpart A established responsibility for compliance with all of Part 214 under 214.5 Responsibility for Compliance. The Design-Build Firm's employees shall not enter the railroad right-of-way without proof of current CFRC Roadway Worker Protection Certification and eRailsafe Shortline photo identification.

The Department may revoke the privilege for the Design-Build Firm to operate under the CFRC Orange Fence Policy at any time if the Department believes that worker safety is compromised.

G. Survey:

The Design-Build Firm shall perform all surveying and mapping services necessary to complete the Project. Survey services must also comply with all pertinent Florida Statutes and applicable rules in the Florida Administrative Code. All field survey data will be furnished to the District Surveyor in a Department approved digital format, readily available for input and use in CADD Design files. All surveying and mapping work must be accomplished in accordance with the Department's Surveying Procedure, Topic Nos. 550-030-101; Right-of-Way Mapping Procedure, Topic No. 550-030-015; Aerial Surveying Standards for Transportation Projects Procedure, Topic No. 550-020-002. This work must comply with Chapter 5J-17, F.A.C., pursuant to Section 472.027, F.S. This survey also must comply with Chapter 177, F.S.

The Design-Build Firm will be responsible for all photogrammetric work necessary to interpret measure,

digitize and compile, by stereoscopic techniques, the mapping and survey data from the aerial photography, as required for this Project.

H. Verification of Existing Conditions:

The Design-Build Firm shall be responsible for verification of existing conditions, including research of all existing Department records and other information.

By execution of the contract, the Design-Build Firm specifically acknowledges and agrees that the Design-Build Firm is contracting and being compensated for performing adequate investigations of existing site conditions sufficient to support the design developed by the Design-Build Firm and that any information is being provided merely to assist the Design-Build Firm in completing adequate site investigations. Notwithstanding any other provision in the contract documents to the contrary, no additional compensation will be paid in the event of any inaccuracies in the preliminary information.

I. Submittals:

1. Component Submittals:

The Design-Build Firm may submit components of the contract plans set instead of submitting the entire contract plan set; however, sufficient information from other components must be provided to allow for a complete review. In accordance with the Plans Preparation Manual, components of the contract plans set are roadway, signing and pavement marking, signalization, ITS, lighting, landscape, architectural, structural, and toll facilities.

The Design-Build Firm may divide the project into separate areas and submit components for each area; however, sufficient information on adjoining areas must be provided to allow for a complete review. Submittals for bridges are limited to foundation, substructure, and superstructure. For bridges over navigable waterways, submittals are limited to foundation, approach substructure, approach superstructure, main unit substructure, and main unit superstructure. Further dividing the foundation, substructure, or superstructure into Pier 2, Abutment 1, Span 4, etc will not be accepted.

2. Phase Submittals:

The Design-Build Firm shall provide the documents for each phase submittal listed below to the Department's Project Manager. The particular phase shall be clearly indicated on the documents. The Department's Project Manager will send the documents to the appropriate office for review and comment. Once all comments requiring a response from the Design-Build Firm have been satisfactorily resolved as determined by the Department, the Department's Project Manager will initial, date and stamp the signed and sealed plans and specifications as "Released for Construction".

90% Phase Submittal

_3__ copies of 11" X 17" plans
_3__ signed and sealed geotechnical report

_3__ copies of signed and sealed geotechnical report
_3__ copies of design documentation
_1__ copy of Technical Special Provisions
_2__ CD's containing the above information in .pdf format

Final Submittal

_1__ sets of signed and sealed 11" X 17" plans
_3__ copies of signed and sealed 11" X 17"
_1__ sets of signed and sealed design documentation
_3__ copies of signed and sealed design documentation

1 signed and sealed copy of Construction Specifications Package or Supplemental Specifications Package
_3__ copies of signed and sealed copy of Construction Specifications Package or Supplemental Specifications Package
2 sets of electronic copies of Technical Special Provisions on CD
Independent Peer Reviewer's signed and sealed cover letter that all comments have been addressed and resolved.
_2__ CD's containing the above information in .pdf format

3. Requirements to Begin Construction:

The Design-Build Firm may choose to begin construction prior to completion of the Phase Submittals and the Department stamping the plans and specifications Released for Construction except for bridge construction. To begin construction the Design-Build Firm shall submit signed and sealed plans for the specific activity; submit a signed and sealed Construction Specifications Package or Supplemental Specifications Package; obtain regulatory permits as required for the specific activity; obtain utility agreements and permits, if applicable; and provide five (5) days notice before starting the specific activity. The plans to begin construction may be in any format including report with details, 8 1/2" X 11" sheets, or 11" X 17" sheets, and only the information needed by the Design-Build Firm to construct the specific activity needs to be shown. Beginning construction prior to the Department stamping the plans and specifications Released for Construction does not reduce or eliminate the Phase Submittal requirements.

As-Built Set:

The Design-Build Firm's Professional Engineer in responsible charge of the Project's design shall professionally endorse (sign, seal, and certify) the As-Built Plans, the special provisions and all reference and support documents. The professional endorsement shall be performed in accordance with the Department Plans Preparation Manual.

The Design-Build Firm shall complete the As-Built Plans as the Project is being constructed. All changes made subsequent to the "Released for Construction" Plans shall be signed/sealed by the EOR. The As-Built Plans shall reflect all changes initiated by the Design-Build Firm or the Department in the form of revisions. The As-Built Plans shall be submitted prior to Project completion for Department review and acceptance as a condition precedent to the Departments issuance of Final Acceptance.

The Department shall review, certify, and accept the As-Built Plans prior to issuing Final Acceptance of the project in order to complete the As-Built Plans.

The Department shall certify the As-Built Plans per Chapter 5.12 of the Construction Project Administration Manual (TOPIC No. 700-000-000).

The Design-Build Firm shall furnish to the Department, upon Project completion, the following:

- 1 set of 11" X 17" signed and sealed plans
- _3___ sets of 11 "X 17" copies of the signed and sealed plans
- _2___ sets of final documentation (if different from final component submittal)
- 2 (two) Final Project CD's

J. Contract Duration:

The Design-Build Firm shall establish the Contract Duration for the subject Project. In no event shall the Contract Duration exceed _340___ calendar days. The Proposed Contract Duration shall be submitted with the Bid Price Proposal.

K. Project Schedule:

The Design-Build Firm shall submit a Schedule, in accordance with Subarticle 8-3.2 (Design-Build Division I Specifications). The Design-Build Firm's Schedule shall allow for up to fifteen (15) calendar days (excluding weekends and Department observed Holidays) review time for the Department's review of all submittals with the exception of Category 2 structures submittals. The review of Category 2 structures submittals requires Central Office involvement and the Schedule shall allow for up to twenty (20) calendar days (excluding weekends and Department observed Holidays) for these reviews.

The Department will perform the review of Foundation Construction submittals in accordance with Section 455.

The minimum number of activities included in the Schedule shall be those listed in the Schedule of Values and those listed below:

- Anticipated Award Date
- Design Submittals
- Shop Drawing Submittals
- Design Survey
- Submittal Reviews by the Department and FHWA
- Design Review / Acceptance Milestones
- Materials Quality Tracking
- Geotechnical Investigation
- Start of Construction
- Clearing and Grubbing
- Construction Mobilization
- Embankment/Excavation

- Environmental Permit Acquisition
- Foundation Design
- Foundation Construction
- Substructure Design
- Substructure Construction
- Superstructure Design
- Superstructure Construction
- Walls Design
- Walls Construction
- Roadway Design
- Roadway Construction
- Signing and Pavement Marking Design
- Signing and Pavement Marking Construction
- Signalization and Intelligent Transportation System Design
- Signalization and Intelligent Transportation System Construction
- Lighting Design
- Lighting Construction
- Maintenance of Traffic Design
- Landscape Opportunity Plans
- Permit Submittals
- Maintenance of Traffic Set-Up (per duration)
- Erosion Control
- Holidays and Special Events (shown as non-work days)
- Additional Construction Milestones as determined by the Design-Build Firm
- Final Completion Date for All Work

L. Key Personnel/Staffing:

The Design-Build Firm's work shall be performed and directed by key personnel identified in the Letter of Interest and/or Technical Proposal by the Design-Build Firm. In the event a change in key personnel is requested, the Design-Build Firm shall submit the qualifications of the proposed key personnel and include the reason for the proposed change. Any changes in the indicated personnel shall be subject to review and approval by the District Construction Engineer. The Department shall have sole discretion in determining whether or not the proposed substitutions in key personnel are comparable to the key personnel identified in the Letter of Interest and/or Technical Proposal. The Design-Build Firm shall have available professional staff meeting the minimum training and experience set forth in Florida Statute Chapter 455.

M. Partner/Teaming Arrangement:

Partner/Teaming Arrangements of the Design-Build Firm (i.e., Prime Contractor or Lead Design Firm) cannot be changed after submittal of the Letter of Interest without written consent of the Department. In the event a change in the Partner/Teaming Arrangement is requested, the Design-Build Firm shall submit the reason for the proposed change. Any changes in the Partner/Teaming Arrangement shall be subject to review and approval by the Department's Chief Engineer. The Department shall have sole discretion in determining whether or not the proposed substitutions in Partner/Teaming Arrangements are comparable to the Partner/Teaming Arrangements identified in the Letter of Interest and/or Technical Proposal.

N. Meetings and Progress Reporting:

The Design-Build Firm shall anticipate periodic meetings with Department personnel and other agencies as required for resolution of design and/or construction issues. These meetings may include:

- Department technical issue resolution
- Local government agency coordination
- Maintenance of Traffic Workshop
- Pavement Design Meeting
- Permit agency coordination
- Scoping Meetings
- System Integration Meetings

During design, the Design-Build Firm shall meet with the Department's Project Manager on a monthly basis and provide a one month look ahead of the activities to be completed during the upcoming month.

During construction, the Design-Build Firm shall meet with the Department's Project Manager on a weekly basis and provide a one-week look ahead for activities to be performed during the coming week.

The Design-Build Firm shall meet with the Department's Project Manager at least thirty (30) calendar days before beginning system integration activities. The purpose of these meetings shall be to verify the Design-Build Firm's ITS and signalization integration plans by reviewing site survey information, proposed splicing diagrams, IP addressing schemes, troubleshooting issues, and other design issues. In addition, at these meetings the Design-Build Firm shall identify any concerns regarding the Integration and provide detailed information on how such concerns will be addressed and/or minimized.

The Design-Build Firm shall provide all documentation required to support system integration meetings, including detailed functional narrative text, system and subsystem drawings and schematics. Also included shall be the documentation to demonstrate all elements of the proposed design which includes, but is not limited to: technical, functional, and operational requirements; ITS/communications; equipment; termination/patch panels; performance criteria; and details relating to interfaces to other ITS subsystems.

System Integration Meetings will be held on mutually agreeable dates.

All action items resulting from the System Integration Meeting shall be satisfactorily addressed by the Design-Build Firm and reviewed and approved by the Department.

The Design-Build Firm shall, on a monthly basis, provide written progress reports that describe the items of concern and the work performed on each task.

O. Public Involvement:

1. General:

Public involvement is an important aspect of the Project. Public involvement includes communicating to all interested persons, groups, and government organizations information regarding the development of the Project. A Public Involvement Consultant (PIC) has been hired by the Department to carry out an

exhaustive Public Involvement Campaign and a marketing effort. The Design-Build Firm will continue to be part of the Public Involvement effort but on a limited basis as described below.

2. **Community Awareness:**

The Design-Build Firm will review and comment on a Community Awareness Program provided by the PIC for the Project.

3. **Public Meetings:**

The Design-Build Firm shall provide all support necessary for the PIC to hold various public meetings, which may include:

- Kick-off or introductory meeting
- Metropolitan Planning Organization (MPO) Citizens Advisory Committee Meetings
- MPO Transportation Technical Committee Meetings
- MPO Meetings
- Public Information Meetings
- Elected and appointed officials
- Special interest groups (private groups, homeowners associations, environmental groups, minority groups and individuals)

The Design-Build Firm shall include attendance at two meetings per month for the term of the contract to support the public involvement program.

For any of the above type meetings the Design-Build Firm shall provide all technical assistance, data and information necessary for the PIC to produce display boards, printed material, video graphics, computerized graphics, etc., and information necessary for the day-to-day exchange of information with the public, all agencies and elected officials in order to keep them informed as to the progress and impacts that the proposed Project will create. This includes workshops, information meetings, and public hearings.

The Design-Build Firm shall, on an as-needed basis, attend the meetings with an appropriate number of personnel to assist the Department's Project Representative/PIC. The Design-Build Firm shall forward all requests for group meetings to the PIC. The Design-Build Firm shall inform the PIC of any meetings with individuals that occur without prior notice.

4. **Public Workshops, Information Meetings:**

The Design-Build Firm shall provide all the support services listed in No. 3 above.
All legal/display ads announcing workshops, information meetings, and public meetings will be prepared and paid for by the PIC.

The Department will be responsible for the legal/display advertisements for design concept acceptance. The PIC will be responsible for preparing and mailing (includes postage) for all letters announcing workshops and information meetings.

5. **Public Involvement Data:**

The Design-Build Firm is responsible for the following:

- Coordinating with the Public Involvement Consultant.
- Identifying possible permit and review agencies and providing names and contact information for these agencies to the PIC.
- Providing required expertise (staff members) to assist the PIC on an as-needed basis.
- Preparing color graphic renderings and/or computer generated graphics to depict the proposed improvements for coordination with the Department, local governments, the Urban Design Guidelines Committee, and other agencies.

The collection of public input occurs throughout the life of the Project and requires maintaining files, newspaper clippings, letters, and especially direct contacts before, during and after any of the public meetings. Articles such as those mentioned shall be provided to the PIC for their use and records.

In addition to collecting public input data, the Design-Build Firm may be asked by the PIC to prepare responses to any public inquiries as a result of the public involvement process. The Department shall review all responses prior to mailing.

P. Quality Management Plan (QMP):

1. Design:

The Design-Build Firm shall be responsible for the professional quality, technical accuracy and coordination of all surveys, designs, drawings, specifications, geotechnical and other services furnished by the Design-Build Firm under this contract.

The Design-Build Firm shall provide a Design Quality Management Plan, which describes the Quality Control (QC) procedures to be utilized to verify, independently check, and review all design drawings, specifications, and other documentation prepared as a part of the contract. In addition the QMP shall establish a Quality Assurance (QA) program to confirm that the Quality Control procedures are followed. The Design-Build Firm shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. The QMP may be one utilized by the Design-Build Firm, as part of their normal operation or it may be one specifically designed for this Project. The Design-Build Firm shall submit a QMP within fifteen (15) working days following issuance of the written Notice to Proceed. A marked up set of prints from the Quality Control review will be sent in with each review submittal. The responsible Professional Engineers or Professional Surveyor that performed the Quality Control review, as well as the QA manager will sign a statement certifying that the review was conducted.

The Design-Build Firm shall, without additional compensation, correct all errors or deficiencies in the surveys, designs, drawings, specifications and/or other services.

2. Construction:

The Design-Build Firm shall be responsible for developing and maintaining a Construction Quality Control Plan in accordance with Section 105 of Standard Specifications which describes their Quality Control procedures to verify, check, and maintain control of key construction processes and materials.

The sampling, testing and reporting of all materials used shall be in compliance with the Sampling, Testing

and Reporting Guide (STRG) provided by the Department. The Design-Build Firm will use the Department's database(s) to allow audits of materials used to assure compliance with the STRG. The Department has listed the most commonly used materials and details in the Department's database. When materials being used are not in the Department's database list, the Design-Build Firm shall use appropriate material details from the STRG to report sampling and testing. Refer to the State Materials Office website for instructions on gaining access to the Department's databases: http://www.dot.state.fl.us/statematerialsoffice/quality/programs/qualitycontrol/contractor.shtm

Prepare and submit to the Engineer a Job Guide Schedule (JGS) using the Department database in accordance with Section 105 of Standard Specifications.

The Department shall maintain its rights to inspect construction activities and request any documentation from the Design-Build Firm to ensure quality products and services are being provided in accordance with the Department's Materials Acceptance Program.

Q. Liaison Office:

The Department and the Design-Build Firm will designate a Liaison Office and a Project Manager who shall be the representative of their respective organizations for the Project.

R. Schedule of Values:

The Design-Build Firm is responsible for submitting estimates requesting payment. Estimates requesting payment will be based on the completion or percentage of completion of tasks as defined in the schedule of values. Final payment will be made upon final acceptance by the Department of the Design-Build Project. Tracking DBE participation will be required under normal procedures according to the Construction Project Administration Manual. The Design-Build Firm must submit the schedule of values to the Department for approval. No estimates requesting payment shall be submitted prior to Department approval of the schedule of values.

The project funding includes federal funds from the Federal Transit Administration (FTA). The Schedule of Values shall also include a cost breakdown based on the Standard Cost Categories (SCC) for Capital Projects as required by FTA. The Department may also require other special categories for the schedule of values.

Upon receipt of the estimate requesting payment, the Department's Project Manager will make judgment on whether or not work of sufficient quality and quantity has been accomplished by comparing the reported percent complete against actual work accomplished.

S. Computer Automation:

The Project shall be developed utilizing computer automation systems in order to facilitate the development of the contract plans. Various software and operating systems were developed to aid in assuring quality

and conformance with Department policies and procedures. The Department supports MicroStation and GEOPAK as its standard graphics and roadway design platform as well as Autodesk's AutoCAD Civil 3D as an alternate platform. Seed Files, Cell Libraries, User Commands, MDL Applications and related programs developed for roadway design and drafting are in the FDOT CADD Software Suite. Furnish As-Built documents for all building related components of the project in AutoCAD format. It is the responsibility of the Design-Build Firm to obtain and utilize current Department releases of all CADD applications.

The Design-Build Firm will be required to furnish the Project's CADD files after the plans have been Released for Construction. The Design-Build Firm's role and responsibilities are defined in the Department's CADD Manual. The Design-Build Firm will be required to submit final documents and files which shall include complete CADD design and coordinate geometry files in Intergraph / Micro station format.

As part of the As-Built Set deliverables, field conditions shall be incorporated into MicroStation and/or AutoCAD design files. Use the cloud revision utility as well as an "AB" revision triangle to denote field conditions on plan sheets.

T. Construction Engineering and Inspection:

The Department is responsible for providing Construction Engineering and Inspection (CEI) and Quality Assurance Engineering.

The Design-Build Firm is subject to the Department's Independent Assurance (IA) Procedures.

U. Testing:

The Department or its representative will perform verification and resolution sampling and testing activities at both on site, as well as, off site locations such as pre-stress plants, batch plants, structural steel and weld, fabrication plants, etc. in accordance with the latest Specifications.

The Design-Build Firm shall prepare an Inspection and Testing Plan for review and acceptance by the Department that contains a list of all tests to be performed and the procedures for performing the tests. The Plan shall provide the test name, identify the specific component of the system requiring the test, and identify who is responsible for each type of test. This shall include the factory acceptance testing, field verification testing and system integration testing and acceptance. The installation, inspection and testing program shall be incorporated into the construction conformance process, including the construction conformance checklists as required by FTA. This ensures that the As-Built configurations contain the safety-related requirements identified in the Contract Documents.

The program shall include the following elements:

1. Design Compliance, Qualification and Production Verification Testing - Design compliance and qualification tests are conducted at the material, component, or subsystem level during the design of each element, to demonstrate compliance with the contract documents. These tests are generally performed at the Design-Build Firms facilities, at independent laboratories or as specified in the Contract Documents.

Demonstrated successful completion of design compliance and qualification tests – including demonstration of compliance as described above – is a prerequisite for system integration and pre-revenue testing. Design compliance, qualification and production verification testing is performed by the Design-Build Firm.

2. Construction Inspection Testing - Construction inspection tests are in-process acceptance tests conducted to confirm that supplied materials or equipment meet specified standards, and that fixed facilities are constructed in accordance with specified workmanship standards and industry codes. These tests follow normal testing procedures as outlined in the specifications. These tests are not a part of the SITP process. The Design-Build Firm performs construction inspection testing services in accordance with the Contract Documents. The Department completes the independent verification testing.

3. Installation Verification Testing - Installation verification tests are in-process acceptance tests and inspections conducted at the subsystem or assembly level during the installation of each element. These tests confirm that on-site installation is in accordance with the approved design and that the quality of installation is in accordance with the Contract Documents. Installation verification tests are performed by the Design-Build Firm. Demonstrated successful completion of installation verification testing is a prerequisite for system integration and pre-revenue testing.

4. Contract Acceptance Testing - Contract acceptance tests are conducted at the subsystem level to verify that the performance of each element and subsystem/assembly is in compliance with contract requirements. Some earlier tests may be repeated as acceptance tests to verify proper operation of the element after installation.

Prior to commencing system integration testing, each contractor is responsible to demonstrate that materials, components, assemblies, or subsystems to be integrated are in compliance with the contract and meet the intended use. Contract Acceptance tests are performed by the Design-Build Firm.

5. System Integration Testing – System Integration tests are conducted on the completed systems to verify that the system integration has been completed and all subsystems are working within the overall systems as design. Some earlier tests may be repeated as acceptance to verify the proper operation of the system after installation.

The Design-Build Firm is responsible for completing all System Integration testing, including the documentation for the safety-critical elements. The Design-Build Firm shall coordinate with the CFRC for assistance from other contractors during the systems integration testing (i.e., need for vehicles).

The Inspection and Testing Plan shall provide the following information for each identified test/inspection:

- Schedule of test/inspection
- Identification of independent test labs to be used
- Specialized equipment and/or personnel training or qualifications required.

The Inspection and Testing Plan shall be updated throughout the project duration as required.

The Design-Build Firm's inspection and testing procedures shall be accepted by the Department prior to

initiating any test/inspection and shall include the test requirements, acceptance criteria and test conditions. Procedures shall, at a minimum, include:

- Identify the characteristics to be inspected, examined and tested at each activity point
- Specify inspection and testing procedures and acceptance criteria
- Include inspection checklists
- Identify hold points as described below.

The inspection or test procedures shall include items such as who is responsible; how, when and where all tests are to be performed; what materials, equipment, and documentation are to be used; results of tests with pass/fail criteria and how it is controlled. These procedures may be documented in the Quality Management Plan.

The Design-Build Firm shall use competent inspection personnel and shall not depend exclusively on inspections performed by persons performing or directly supervising the work being inspected. Inspection personnel shall not report directly to the immediate foreman or supervisor responsible for constructing or installing the work being inspected. Inspection personnel shall be given the necessary authority and independence to perform their roles.

Personnel performing inspections and tests shall possess a demonstrated competence in the specific area of interest and have an adequate understanding of the requirements. Written guidelines shall be established by the Design-Build Firm and accepted by the Department for the education, experience, and technical qualifications for such personnel.

The Inspection and Testing Plan shall include a listing of hold points shall be established by the Design-Build Firm and accepted by the Department. Hold points are pre-determined inspection points for the work in progress which may become inaccessible as the work progresses. The Design-Build Firm shall "hold" until the verification of the testing and inspection is complete. In-process inspection activities shall be planned and performed to ensure the quality of the finished work. Any non-conforming conditions shall be documented and corrected prior to proceeding.

The Design-Build Firm shall demonstrate the acceptability of the construction activities with objective evidence through suitable inspections and testing records. Inspection and testing records shall be prepared, reviewed, maintained and safely stored by the Design-Build Firm. The Department may request to examine these records at any time. All tests shall be submitted to the Department.

The Design-Build Firm shall distinguish between inspected and uninspected items by using suitable control devices. Inspection and test status identification of structures, systems or components shall be maintained and controlled from initial receipt through installation to operation of the completed item.

System Integration and System Integration Test Management Plan

The Design-Build Firm shall prepare a System Integration Test Management Plan (SITMP) for the project. The SITMP provides the CFRC the proposed project management approach to System Integration Testing. The Design-Build Firm will need to develop additional procedures to provide more details on test planning, execution, and reporting.

The SITMP management approach provides an overview of:

- Program Testing Requirements
- System Integration Testing Process including:
    - Overview

    - Test Planning
    - Test Execution and Reporting
    - Training and Coordination during SIT
- Pre-Revenue Phase
- System Safety and Security Certification
- System Integration Testing Organization

The CFCRT Project SITMP takes into account how the testing program affects the public, other rail operators, and other stakeholders. For example, when the system integration test will affect traffic, cause the closure of crossings, or involve first responders, the project will arrange to conduct public outreach, as appropriate.

System integration testing in the context of the SITMP program describes the testing of interfaces and overarching functionality between and among the following contracts.

- Design-Build Firm
    - Wayside signal system
    - Grade Crossing Warning system
- O&M Contractor
- Signal Maintenance Contractor
- Third Parties/Oversight Agencies

Interfaces within one contract (intra-contract) are within the scope of the corresponding contract, are subject to contract acceptance testing and not discussed in this system integration document. Interfaces with third parties (e.g. Amtrak, CSXT, and FCEN) are considered intra-contract interfaces. Interfaces between the O&M Contractor, Oversight Agencies (FTA, FRA, DHS/TSA) and the other contractors are considered operational interfaces.

The objectives of the SITMP document are to:

- Provide a framework for contract acceptance, system integration, start-up, and pre-revenue testing as well as system and security certification by:
    - Identifying the overall testing requirements
    - Describing the testing organization, and roles and responsibilities of each party
    - Defining the testing deliverables and related process activities
    - Providing standard templates to be used
- Describe the types of tests to be performed for:
    - Verification of inter-contract interfaces
    - Testing of end-to-end system functionality
    - Training and integration of personnel, equipment and procedures
    - Certification of safety and security relevant items
    - Performance of Emergency Drills

The Design-Build Firm shall provide a summary of all tests required to be performed during system integration test. As part of the SIT process, the following deliverables will be created:

- Master List of Tests: Provides a structured overview of all tests to be performed. The structure shall follow a system breakdown structure. All system interfaces would be previously identified and tested in the SITP. Emergency drills will be using functions already certified during SITP.
- Test Descriptions: Provide details for each test in a standardized form, including test names, references to the test procedures, contracts involved, test objectives, test requirements, test

descriptions, test prerequisites, success/failure criteria, resource needs and time required to perform the tests.
- Test Schedule: A test schedule will be developed based on time required and prerequisites identified in the descriptions.
- Emergency Drills: As a component of SITMP, emergency drills will be performed to certify all elements function together as needed for safe/secure operations.

The SITMP will remain a living document until all the SI tests have been conducted. The final submission of SITMP will have a record of all integration tests that were completed as part of the project.

SITMP will remain a living document until all the SI tests have been conducted. The final submission of SITMP will have a record of all integration tests that were completed as part of the project and shall include the test execution and reporting, including results. The SITMP will include the completed step-by-step test procedures, test data sheets, test reports and any revisions to the schedules for all completed tests. Together all segments of the SITMP will document all integration testing activities undertaken from a planning standpoint as well as an execution and documentation standpoint. These segments or volumes will be submitted to the SSCC and FDOT for safety and security certification compliance.

The following outlines the minimum requirements for the testing of the wayside signal and grade crossing warning systems.

Pre-Integration Testing

Pre-Integration Testing (PIT) shall be performed and accepted by the Department prior to initiating System Integration Testing. The PIT shall be witnessed by the Department with no less than fifteen days notice of the PIT. All PIT test forms shall be reviewed and accepted by the Department prior to initiating the testing. Additional tests may be added to the PIT by the Department as deemed required.

PIT for control points shall include performing complete Route and Time Locking tests, light out/signal downgrades, all timers, office controls and indications and local control panel control and indications. Wayside Automatic Signals shall include testing of each proper signal aspect available with progressive train simulation movement for aspect upgrading as train moves away from signal. Automatic Signals shall also have light out and signal downgrades tested.

The minimum required testing for wayside signal systems, including Control Points, Automatic Signals and Wayside Switches (not all tests will be applicable for each location) include:
- Switch Circuit Controller or Point Detector
- Shunt Fouling
- Grounds and Crosses
- Switch Obstructions
- Lightning and Surge Protection (Visual Only)
- IJ and Track Connections
- Power Off/Standby Power
- Signal Lenses – Outside Surface
- ATS Height and Alignment Gauge
- Trackside Hazard Detector
- ATS Inductor
- Searchlight Signal
- Relays - Shall have actual field tested information not the information from the factory

- Approach Locking
- Time Locking
- Route Locking
- Indication Locking
- Traffic Locking
- Electric Lock
- Insulation Resistance - Shall include each conductors name and value found during testing

Grade Crossings and Pedestrian crossing shall be tested to verify all routes and multiple train speeds operate the gates, flashing lights and preemption equipment. All crossing warning times shall be documented for multiple train speeds in all directions.

Pre Emption shall be verified with the traffic department to ensure proper functioning of the preemption to clear the queue.

The minimum required testing for At Grade Crossings, including Pedestrian Crossings; (not all tests will be applicable for each location) include:

- Lightning and Surge Protection (Visual Only)
- Grounds and Crosses
- Power Off/Standby Power
- Crossing Signal signs
- Proper Visibility of Flashing Lights
- Gate Arms and Gate Mechanisms
- Warning Systems Operations
- Active Advance Warning Device
- Traffic Signal Pre-Emption
- Cut-Out Circuits
- IJ, Bonds, Shunts and Track Connections
- Relays - Shall have actual field tested information not the information from the factory
- Crossing Warning Times
- Flashing Light Units and Lamp Voltage
- Hold Clear Devices
- Time Release
- DTMF Activation
- Insulation Resistance - Shall include each conductors name and value found during testing

All field equipment shall be verified to ensure distances of all installed field equipment matches FDOT, FRA, AREMA and MUTCD standards. All serial numbers, software dates, checksums and CRC's shall also be documented. A copy of the PIT shall be part of the Safety and Certification documentation.

V. Value Added:

The Design-Build Firm may provide Value Added Project Features, in accordance with Article 5-14 of the Specifications for the following features:

- And any other products or features the Design-Build Firm desires.

The Design-Build Firm shall develop the Value Added criteria, measurable standards, and remedial work plans in the Design-Build Firm's Technical Proposal for features proposed by the Design-Build Firm.

W. Adjoining Construction Projects:

The Design-Build Firm shall be responsible for coordinating construction activities with other construction Projects that are impacted by or impact this Project. This includes Projects under the jurisdiction of local governments, the Department, or other regional and state agencies.

X. Issue Escalation:

In the event issues arise during prosecution of the work, the resolution of those issues will be processed as described below unless revised by a project specific Partnering Agreement:

The escalation process begins with the Construction Project Manager. All issues are to be directed to the Construction Project Manager. If the issue cannot be resolved by the Construction Project Manager in coordination with the Resident Engineer and Design Project Manager as applicable, the Construction Project Manager shall forward the issue to the District Construction Engineer who will coordinate with the District Design Engineer, as applicable. Each level shall have a maximum of five (5) calendar days (excluding weekends and Department observed holidays) to answer, resolve, or address the issue. The Design-Build Firm shall provide all supporting documentation relative to the issue being escalated. The five (5) calendar day period (excluding weekends and Department observed holidays) begins when each level in the issue escalation process has received all required supporting documentation necessary to arrive at an informed and complete decision. The five (5) calendar day period (excluding weekends and Department observed holidays) is a response time and does not infer resolution. Questions asked by the Department may be expressed verbally and followed up in writing within one (1) calendar day (excluding weekends and Department observed holidays). Responses provided by the Design-Build Firm may be expressed verbally and followed up in writing within one (1) working day. Once a response is received from the District Construction Engineer, the Construction Project Manager will respond to the Design-Build Firm in a timely manner but not to exceed three (3) calendar days (excluding weekends and Department observed holidays).

The Design-Build Firm shall provide a similar issue escalation process for their organization with personnel of similar levels of responsibility.

Should an impasse develop, the Dispute Review Board shall assist in the resolution of disputes and claims arising out of the work on the Contract.

Y. Incorporation of Federal Transit Administration (FTA) Terms and Conditions

The Design-Build Firm shall be required to comply with the contract provisions for FTA contracts using Federal Aid. These required contract provisions are included as an Attachment to this RFP.

The Project will receive financial assistance from the FTA. The Design-Build Firm shall be responsible for compliance with and implementation of applicable requirements of certifications issued by the United States Department of Labor (DOL) pursuant to 49. U.S.C.A. 5333(b) as to the Department's grants of

financial assistance as to the Project. A copy of the DOL certification issued as to the preliminary engineering phase of the Project (FL-03-0323) is included as an Attachment to this RFP. The Department will provide the Design-Build Firm copies of any additional certifications issued by DOL as to FTA grants for the Project.

VI. Design and Construction Criteria.

A. General:

All design and construction work completed under the Contract shall be in accordance with the United States Standard Measures.

B. Geotechnical Services:

Miscellaneous Structures

Spread Footings Foundations

The Design-Build Firm shall be responsible for the following:

1. Evaluating geotechnical conditions and designing the spread footing.
2. Constructing the spread footing to the required footing elevation, at the required soil or rock material, and at the required compaction levels, in accordance with the specifications.
3. Inspecting and documenting the spread footing construction.
4. Submitting Foundation Certification Packages in accordance with the specifications.
5. Providing safe access, and cooperating with the Department in verification of the spread footing, both during construction and after submittal of the certification package.

Auger Cast Piles

The Design-Build Firm shall be responsible for the following:

1. Evaluating geotechnical conditions and designing the foundations, including diameter and lengths.
2. Constructing all auger cast piles to the required tip elevation and socket requirements, in accordance with the specifications.
3. Preparing and submitting a Auger Cast Pile Installation Plan for the Department's acceptance.
4. Inspecting and documenting the auger cast pile installation.
5. Submitting Foundation Certification Packages in accordance with the specifications.
6. Providing safe access, and cooperating with the Department in verification of the auger cast piles, both during construction and after submittal of the certification package.

Specialty Geotechnical Services Requirements

Specialty geotechnical work is any alternative geotechnical work not covered by Department Specifications and requires the development of a Technical Special Provision (TSP). Any TSP for geotechnical work shall include the following:

- Criteria of measurable parameters to be met in order to accept the specialty geotechnical work,
- A field testing and instrumentation program to verify design assumptions and performance,
- A quality control program to be performed by the Design-Build Firm that includes sampling and testing to ensure the material quality, products, and installation procedures meet , requirements,
- A verification testing program to be performed by the Geotechnical Foundation Design Engineer of Record (GFDEOR) that includes inspection, sampling, and testing to verify the material, products, and procedures meet requirements. The TSP shall include language providing separate lab samples to be used for the Department's independent verification.
- A certification process

After construction of the specialty geotechnical work, the Design-Build Firm shall submit a certification package for Department's review. The certification package shall include the results of all the field testing, instrumentation and lab testing performed and a signed and sealed letter by the GFDEOR certifying that the specialty geotechnical work meets the requirements. The Department may issue comments and request additional verification testing.

C. Utility Coordination:

The Design-Build Firm shall utilize a single dedicated person responsible for managing all utility coordination. This person shall be contractually referred to as the Utility Coordination Manager and shall be identified in the Design-Build Firm's proposal. The Design-Build Firm shall notify the Department in writing of any change in the identity of the Utility Coordination Manager. The Utility Coordination Manager shall have the following knowledge, skills, and abilities:

1. A minimum of 4 years of experience performing utility coordination in accordance with Department standards, policies, and procedures.
2. Knowledge of the Department plans production process and utility coordination practices,
3. Knowledge of Department agreements, standards, policies, and procedures.

The Design-Build Firm's Utility Coordination Manager shall be responsible for managing all utility coordination, including, but not limited to, the following:

1. Ensuring that all utility coordination and activities are conducted in accordance with the requirements of the Contract Documents.
2. Identifying all existing utilities and coordinating any new installations
3. Reviewing proposed utility permit application packages and recommending approval/disapproval of each permit application based on the compatibility of the permit as related to the Design-Build firm's plans.
4. Scheduling and attending utility meetings, preparing and distributing minutes of all utility meetings, and ensuring expedient follow-up on all unresolved issues.
5. Distributing all plans, conflict matrices and changes to affected Utility Agency/Owners and making sure this information is properly coordinated.
6. Identifying and coordinating the execution and performance under any agreement that is required for any utility work needed in with the Design-Build Project.
7. Preparing, reviewing, approving, signing, coordinating the implementation of and submitting to the Department for review, all Utility Agreements.

8. Resolving utility conflicts.
9. Obtaining and maintaining all appropriate "*Sunshine State One Call of Florida*" tickets.
10. Performing Constructability Reviews of plans prior to construction activities with regard to the installation, removal, temporary removal, de-energizing, deactivation, relocation, or adjustment of utilities.
11. Providing periodic Project updates to the Department Project Manager and District Utility Office as requested.
12. Coordination with the Department on any issues that arise concerning reimbursement of utility work costs.

The following Utility Agency/Owners (UA/O's) have been identified by the Department as having facilities within the Project corridor which Department contemplates an adjustment, protection, or relocation is possible Also provided below is a determination made by the Department as to the eligibility of reimbursement for each UA/O identified herein along with an identification of whether the UA/O or the Design-Build Firm will be responsible for performing the utility work

Table A - Summary of UAO having facilities within the Proposed Project Limits

UAO	**Contact Information**	
AT&T Corp	Greg Jacobson	813-342-0512
AT&T Florida (Distribution)	Alan Reynolds	407-351-8180
Bright House Networks, LLC	Marvin Usry	407-448-5506
CenturyLink (f.k.a. Embarq Florida)	Wade Rich	407-814-5383
ComCast Communications	Scott Osebold	352-315-8527
Crown Castle (f.k.a. NextG Networks)	Jason Frye	724-416-2028
Duke Energy of Florida, Inc. Distribution	Robb Brown	352-459-4671
Duke Energy of Florida Inc. Transmission	Jennifer Williams	813-909-1210
Florida Gas Transmission	Joseph Sanchez	407-838-7171
FPL Fibernet	Danny Haskett	305-552-2931
Kinder Morgan/Central Florida Pipeline Corp	Bryant Moore	770-751-4273
Level 3 Communications	Richard Simonton	407-754-0106
Orange County Utilities Water/Wastewater	Jose Hernandez	407-254-9718
Orlando Orange County Expressway Authority	Joseph Berenis	407-316-3800
Orlando Telephone Company dba Summit Broadband	Bill Lean	727-235-4362
OUC Water	Steve Grubbs	407-649-4418
Sprint, Inc.	Mark Coldwell	321-287-9942
Taft Water Assoc.	Alan Dominy	407-855-8712
TECO Peoples Gas	Bruce Stout	407-420-2678
Tower Cloud, Inc.	Jonathan Ray	813-417-2184

UAO	Contact Information	
Verizon Business	John McNeil	863-965-6438

The Design-Build Firm may request the utility to be relocated to accommodate changes from the conceptual plans; however, these relocations require the Department's approval and the Department will not pay the Utility Agency/Owner (UA/O) or the Design-Build Firm for the utility relocation work regardless of the UA/O's eligibility for reimbursement.

For a reimbursable utility relocation where the UA/O desires the work to be done by their contractor, the UA/O will perform the work in accordance with the utility work schedule and permit, and bill the Department directly.

DEVIATION FROM THE CONCEPTUAL UTILITY RELOCATION PLAN: If the Design-Build Firm chooses to deviate from the conceptual plans and the scope of the impact to a utility depicted in the Appendix, and thereby causes a greater impact to a utility, the Design-Build Firm shall be solely responsible for all increased costs incurred by the utility owner associated with the increase in the scope of the impact to a utility from that depicted in the Appendix. The Design-Build Firm shall obtain an agreement from the utility owner being impacted which outlines the changes to the scope of the impact to a utility from that depicted in the Appendix XX. The agreement shall also address the Design-Build Firm's obligation to compensate the utility owner for the additional costs above the costs which would have been incurred without the Design Build Firm's increase in the scope of the impact to a utility from that depicted in the Appendix. The Design-Build Firm shall also provide a draft utility permit application acceptable to the Department for the placement of the utility owner's facilities based on the final design. The Department shall not compensate or reimburse the Design-Build Firm for any cost created by a change in scope of the impact to a utility from that depicted in the Appendix, or be liable for any time delays caused by a change in scope of the impact to a utility from that depicted in the Appendix.

The relocation agreements, plans, work schedules and permit application are to be forwarded to the Department for review by the District Utility Office (DUO) and Department's Construction Manager. The DUO and Department's Construction Manager only review the documents and are not to sign them. Once reviewed, the utility permit application will be forwarded to the District Maintenance office for the permit to be signed and recorded or submitted through the Online System Permitting (OSP) system.

D. Railroad and Roadway Plans:

General:

The Design-Build Firm shall prepare the Roadway Plans Package. This work effort includes the roadway design and drainage analysis needed to prepare a complete set of Railroad Plans, Roadway Plans, Traffic Control Plans, Environmental Permits and other necessary documents.

Design Analysis:

The Design-Build Firm shall develop and submit a signed and sealed Typical Section Package, Pavement Design Package and Drainage Analysis Report for review and concurrence by the Department,

Any deviation from the Department's design criteria will require a Design Variation and any deviation from AASHTO or AREMA Criteria will require a Design Exception. All such Design Variations and Design Exceptions must be approved through the ATC process..

These packages shall include the following:

1. **Drainage Analysis:**

The Design-Build Firm shall be responsible for designing the drainage and stormwater management systems. All design work shall be in compliance with the Department's Drainage Manual; Florida Administrative Code, chapter 14-86; Federal Aid Policy Guide 23 CFR 650A; and the requirements of the regulatory agencies. This work will include the engineering analysis necessary to design any or all of the following: cross drains, French drains, roadway ditches, outfall ditches, storm sewers, retention/detention facilities, interchange drainage and water management, other drainage systems and elements of systems as required for a complete analysis. Full coordination with all permitting agencies, the district Environmental Management section and Drainage Design section will be required from the outset. Full documentation of all meetings and decisions are to be submitted to the District Drainage Design section. These activities and submittals should be coordinated through the Department's Project Manager.

The exact number of drainage basins, outfalls and water management facilities (retention/detention areas, weirs, etc.) will be the Design-Build Firm's responsibility.

The objective is to obtain approved stormwater treatment/attenuation design. This service shall include, but is not limited to the following: the drainage system shall include the track bed and station areas throughout the project limits. All drainage shall be accommodated within right-of-way currently owned by the Department. The drainage design shall take into account the historic drainage patterns as well as existing drainage facilities.

Perform design and generate construction plans documenting the permitted systems function to criteria.

Prior to proceeding with the Drainage Design, the Design-Build Firm shall meet with the District Drainage Engineer. The purpose of this meeting is to provide information to the Design-Build Firm that will better coordinate the Preliminary and Final Drainage Design efforts. This meeting is Mandatory and is to occur fifteen (15) calendar days (excluding weekends and Department observed holidays) prior to any submittals containing drainage components.

The Design-Build Firm shall provide the Department's District Drainage Engineer a signed and sealed Drainage Design Report. It shall be an As-Built Plan of all drainage computations, both hydrologic and hydraulic. The engineer shall include all necessary support data.

E. Design Documentation, Calculations, and Computations:

The Design-Build Firm shall submit to the Department design documentation, notes, calculations, and computations to document the design conclusions reached during the development of the construction plans.

The design notes and computation sheets shall be fully titled, numbered, dated, indexed, and signed by the designer and the checker. Computer output forms and other oversized sheets shall be folded to a standard size 8½" x 11". The data shall be in a hard-back folder for submittal to the Department. At the Project completion, a final set of design notes and computations, signed by the Design-Build Firm, shall be submitted with the As-Built Plans and tracings.

The design documentation, notes, calculations and computations shall include, but not be limited to the following data:

1. Design Standards and criteria used for the Project
2. Geometric design calculations for horizontal alignments
3. Vertical geometry calculations
4. Documentation of decisions reached resulting from meetings, telephone conversations or site visits

F. Track Clearances

1. **General**

Required clearances for this project have been developed based on CFOMA and AREMA guidelines and Florida State Statutes.

Standard clearances are to be used for all new construction where there are no legal requirements that dictate greater clearances. Clearances for reconstruction, rehabilitation, and alteration work are dependent on existing conditions

Horizontal Clearances - Obstructions

The desired horizontal clearance from the track centerline to a permanent obstruction shall be 18 ft. 0 in. The minimum horizontal clearance from the track centerline to a permanent obstruction shall be in accordance with CFOMA.

For signals greater than 3 ft. 0 in above the top of rail, the minimum horizontal clearance from the track centerline shall be 8 ft. 6 in.

For signals and switch machines 3 ft. 0 in or less above the top of rail and located between tracks, the minimum horizontal clearance from the track centerline shall be 6 ft 0 in (FS).

a. Curved Track Alignment

On curves, both the desired and minimum horizontal clearances to obstructions shall be increased by 1 inch per 30 minutes of curvature, for obstructions on the inside of curve, plus 1 inch per inch of Superelevation for every 5 ft. of height of the obstruction above the top of rail to a maximum of 3½ inches per inch of Superelevation.

G. Railroad Signals - General

1. **Description**

The grade crossing warning system design includes, but is not limited to, existing traffic signal modifications (including pre-emption or interconnect) and grade crossing control systems and warning equipment (gates, flashers, etc.).. The improvements required at the grade crossings are outlined in the Highway-Rail Grade Crossing Improvement Requirements table in the Appendix.

2. **Design References, Codes and Standards**

Design criteria for Signals shall be in accordance with this document and all applicable standards, instructions, specifications, and operating practices for railroad signaling. The design and construction of the system shall conform to the latest revision of applicable codes, but not limited to the recommended practices, and standards listed in Section 2.

a. Definitions

All Definitions shall be as described by AREMA in Section 1.1.1 of the Communications and Signal Manual of Recommended Practices. The definitions for terms used in the Signal Section of this document are represented by the following:

Alarm Condition - Any abnormal condition that requires the attention of an operator, supervisor or maintainer.

CIH - Central Instrument House, main control housing at an interlocking.

Pedestrian Crosswalk (Pedestrian Pathway) - Walkway designed across the rail for pedestrian access to platforms at stations. Pedestrian crosswalks shall have flashing LED lights, gates and bells for warning systems and flangeway fillers for safe pedestrian movement.

Primary Gate - A mechanism, complete with flashing lights and a standard fiberglass highway crossing gate whose color is red/white stripes. Its failure mode is in the lowered or down position. The primary gate is used to inhibit highway motor vehicle traffic for the normal direction of highway traffic.

Preemption Circuit - An electrical circuit that transmits information from a Railroad crossing location to a traffic signal control box to initiate a predetermined traffic cycle.

Right-of-Way (ROW) - Represents FDOT property lines.

Signal House - A walk-in weatherproof shelter where vital hardware is located.

Signal Case - A weatherproof enclosure where vital hardware is located.

3. Design Requirements

a. General

The following provisions shall govern the design of the system or a subsystem that affect public safety:

All components used shall be tried and proven technology and the same or previous product models shall have been in service on a minimum of two Class 1 railroads or a minimum of two major commuter rail systems and is currently accepted for new installations. These components shall include an MTBF report to support reliability. Components shall be combined in such a manner that component failure shall result in a more restrictive condition.
All vital circuits shall be based on closed circuit principles. Broken wires, broken rails,

dirty contacts, a relay failing to respond when energized or a loss of power supply energy shall not result in unsafe conditions.
Wherever possible, built-in checks shall be included that impose a restriction and/or actuate an alarm whenever a device fails to assume its most restrictive position and conditions require that it should.
All circuits, or portions of circuits, whose direct operation is required for the safety of train movements in order to protect life and property are to be considered vital.
All relays that are to be energized by a vital circuit shall be vital relays or vital solid state electronic devices. All contacts that are used within any vital circuit shall be contacts of a vital relay, or driven by a vital output solid-state device.
The design shall be based upon vital processor technology with plug-in type relays as required. Every effort shall be made to standardize on contact configurations.
The highway-rail grade crossing design shall follow all manufacturer recommended practices. All designers shall be familiar with equipment being designed on this project. It will be the contractor's responsibility to train their employees on all equipment being used on this project.
Signal design shall consider the testing of other components of the project such as station and track construction to ensure proper signal preview to ensure line of site is maintained.

b. Fail-safe Design Criteria

Fail-safe design shall be achieved by using the closed-loop principle on vital circuitry, and shall protect against unsafe operation in the instance of a single open circuits or short circuits. All such vital circuits shall consist of two-wire, double-break circuits or vital serial data link in any instance where the controlled element (relay or vital microprocessor input) and any portion of the control circuit are not within the same instrument housing.

H. Highway-Rail Grade Crossing Systems

1. General

Instrument houses and equipment shall be new and complete to include all internal wiring, power components, equipment apparatus, shelves, relay bars and wire ties, wall mounting brackets and all other accessories for a complete operating facility ready for outside power and hook up.

All material to be incorporated in the work shall be new, except where noted, and be manufactured by recognized suppliers to the railway industry and shall meet or exceed the AREMA Signal Manual Guidelines.

All FRA required testing shall be performed prior to placing location into service. Documents will need to be reviewed and accepted by the department prior to placing each location into service. All test forms shall be CFRC forms for testing and be approved for use prior to beginning testing. The final test forms shall include all values that are used to determine if the test passed or failed.

Highway-Rail Grade Crossing design shall meet or exceed current AREMA and MUTCD standards and shall comply with all current FRA regulations published in the CFR 49 Part 234.

At each crossing where traffic preemption is required, a vital No. 14 AWG cable shall be provided from the new housings to a pull/termination box located at the nearest ROW property point to the highway traffic controller. The Contractor shall be responsible to coordinate with the local, county, city or state agency, with jurisdiction of the traffic light system that traffic pre-emption is required for and coordinate the interface testing of these systems.

All grade crossings shall receive the following:

All flashers (Gate and pole mounted) shall be based upon LED technology and in accordance with the current AREMA guidelines. Pole and Cantilever flashers shall be 12 inch LED's while the gate arms shall receive 4 inch LED's.
Sidewalks outside the railroad ROW that do not continue within the RR ROW shall have the end-of-sidewalk in accordance with MUTCD, as determined by the Department.
All gate mechanisms shall use solid state control technology located within the gate mechanism.
All crossing arms shall be fiberglass with highly reflective red and white striping and included 4 inch LED flashers
All gate mechanism, flasher, and cantilever foundations shall be pre-cast concrete in accordance with concept drawings. Helical foundations are an acceptable alternative to precast foundations for flashers and gate mechanisms.
Cables passing underneath the track structure or roadway shall be installed in a minimum two 4 inch ID Schedule 80 PVC pipes under the track and two 4 inch ID RGS pipes under the roadway. Directional boring of HDP conduits is an acceptable alternative to PVC and RGS conduits.
Existing local utility power (where sufficient service is provided) shall be maintained with new vital cabling provided from the new control housing.

2. **Highway / Rail Grade Crossing Summary**

The assemblies provided shall constitute a complete working assembly. It should be noted that supporting hardware, brackets, cable hoses, and all other hardware required to install and make operational shall be provided by the Contractor. All metallic hardware supplied shall either be a galvanized steel or aluminum in accordance with AREMA and the signal manufacturer's recommendations.

a. Gate Complete (FL & G)

Complete gate assembly consists of:

A 16 ft. mast* schedule 40 aluminum pole 5 inches diameter (unless additional flashing units are called out on the crossing layout drawings) with the FDOT crossing identification sign attached to the crossing pole. Placement shall be in accordance with AREMA.

Split base cable termination junction box with a minimum of two rows of eight AAR terminals (as specified by AREMA) along with all terminating hardware and test links.
A pre-cast concrete foundation or approved helical foundation
A gate mechanism with a Direct Current (DC) gate motor in accordance with AREMA, capable of raising and lowering a 36 ft fiberglass gate within the time specified within these documents. This shall include two weight support arms along with any special tooling required for maintenance and proper adjustment.
The maximum gate arm shall be 36 ft., unless approved by the Department.
A fiberglass arm as specified in AREMA Section 3 with 4 in LED flashing lights (in conjunction with the gate schedule shown on the crossing layout plans). The reflectorized arms shall be in accordance with AREMA. The gate arm LED's shall be in accordance with AREMA.
Wind brackets shall be provided for all applications in accordance with AREMA
Pole mounted 12 inch LED flashing light units in accordance with AREMA
A Railroad crossbuck sign in accordance with AREMA and as shown in the current version of the MUTCD signs as R-15-1
Multiple Track Signs (when required) in accordance AREMA as shown in the current version of the MUTCD as sign R-15-2
A pinnacle mounted electronic bell in accordance with AREMA.
A minimum of two pinnacle mounted electronic bell in accordance with the AREMA per grade crossing. (If reusing warning gate the existing bell can remain if in good working order). * Additional pole height shall be required when additional flashers are required. The Contractor shall size the height of the pole to support the intended application as shown on crossing release for construction drawings.

b. Station Pedestrian Gate (PEDFL)

A complete pedestrian gate assembly consists of:

A mast of schedule 40 aluminum pole 5 inches in diameter. Mast shall be of a sufficient length to support the gate mechanism installed.

A gate mechanism with a Direct Current (DC) gate motor in accordance with AREMA, capable of raising and lowering a 16 foot fiberglass gate within the time specified within these documents. This shall include two weight support arms along with any special tooling required for maintenance and proper adjustment.

Split base cable termination junction box with a minimum of two rows of eight AAR terminals (as specified by AREMA) along with all terminating hardware and test links.

A pre-cast concrete foundation or approved helical foundation

A fiberglass arm as specified in AREMA Section 3. The reflectorized arms shall extend across the sidewalk to a point at least 3 inches from the end of the swing gate and shall include two 4 in. LED gate arm light. The gate LED lights shall be one foot within each edge of the sidewalk.

Pole mounted 12 inch LED flashing light units in accordance with AREMA.
If the station's canopy is blocking the proper placement of the flasher on the gate mast, then a short mast (see PEDSM below), flashing lights and second train warning signs will be mounted between tracks on each side the pedestrian walkway.

A Railroad crossbuck sign in accordance with AREMA and as shown in the current version of the MUTCD signs as R-15-1
Multiple Track Signs (when required) in accordance AREMA as shown in the current version of the MUTCD as sign R-15-2
A swing gate to be used to ensure pedestrians are not trapped in the right of way by the pedestrian gates. The gates shall be mounted in a way to swing out away from the tracks and in alignment with the crossing gate. (Swing gates described in Section 17)

c. Standalone Sidewalk Pedestrian Gate (PEDSA)

A standalone pedestrian gate is a pedestrian gate in a quadrant with no other warning gate. A complete standalone pedestrian gate assembly consists of:

A mast of schedule 40 aluminum pole 5 inches in diameter. Mast shall be of a sufficient length to support the gate mechanism installed.

A gate mechanism with a Direct Current (DC) gate motor in accordance with AREMA, capable of raising and lowering a 24 foot fiberglass gate within the time specified within these documents. This shall include two weight support arms along with any special tooling required for maintenance and proper adjustment.

A fiberglass arm as specified in AREMA Section 3. The reflectorized arms shall extend across the sidewalk to a point at least 6 inches beyond the end of the sidewalk and shall include two 4 in. LED gate arm lights for gate arms ten feet or less. The gate LED lights shall be one foot within each edge of the sidewalk.

If gate arm is over ten feet then the gate arm shall include three 4 in. LED gate arm lights. The gate LED lights shall be one foot from edge of tip, one within one foot of the edge of the sidewalk closer to the gate mast and one at the center of sidewalk.

Split base cable termination junction box with a minimum of two rows of eight AAR terminals (as specified by AREMA) along with all terminating hardware and test links.

Pole mounted 12 inch LED flashing light units in accordance with AREMA.
A pre-cast concrete foundation

d. Sidewalk Pedestrian Gate (PEDSM) Associated with grade crossing gate

A pedestrian gate that is associated with a grade crossing gate is a pedestrian gate in a quadrant with a grade crossing gate exists. A complete pedestrian gate associated with a grade crossing gate assembly consists of:

A mast of schedule 40 aluminum pole 5 inches in diameter. Mast shall be of a sufficient

length to support the gate mechanism installed.

A gate mechanism with a Direct Current (DC) gate motor in accordance with AREMA, capable of raising and lowering a 16 foot fiberglass gate within the time specified within these documents. This shall include two weight support arms along with any special tooling required for maintenance and proper adjustment.

A fiberglass arm as specified in AREMA Section 3. The reflectorized arms shall extend across the sidewalk to a point at least 6 inches short the end of the grade crossing gate assembly and shall include two 4 in. LED gate arm lights for gate arms ten feet or less. If gate arm is over ten feet then the gate arm shall include three 4 in. LED gate arm lights. The gate LED lights shall be one foot within each edge of the sidewalk.

Split base cable termination junction box with a minimum of two rows of eight AAR terminals (as specified by AREMA) along with all terminating hardware and test links.

A pre-cast concrete foundation

3. **Vital Train Detection**

Vital train detection shall include electronic track circuits that sense the shunt of the oncoming train toward the crossing calculates the train speed as it approaches the crossing and predict how much time shall be required to warn motorists. Grade crossing train detection shall be overlaid on the wayside vital train detection. The Contractor shall be required to demonstrate reliable shunting characteristics for the equipment that shall be operated by the new commuter rail operations without affecting or having any impact on reliability or safety of freight operations.
Component or system failures which are not self-detecting shall not cause unsafe conditions, even if added to other failures. Any number of simultaneous component or system failures attributable to the same cause or related causes shall not cause unsafe conditions. Any component or wire becoming grounded or any combination of such grounds shall not cause unsafe conditions.
All vital circuits shall be double-break, except within a signal instrument house (shelter) or wayside case, after the entering or leaving circuits are double-broke.
Highway Crossing Warning start circuits shall provide initiation of the warning equipment from both sides of the crossing and shall also include separate island circuits. A minimum of 30 seconds of warning time shall be required prior to the arrival of a train at crossing. Additional start time shall be provided for multiple track crossings with wide travel surfaces, simultaneous or advance pre-emption, or locations where additional time is required. Vital train detection shall be designed to detecting a 0.06 ohm shunt across the running rails with an assumed ballast resistance of 2 ohms per 1000 ft. of track.

4. **Constant Warning Systems**

Constant Warning devices shall be used at all crossings.

5. **Warning System Control**

Where means are provided for cutting out the warning devices during intervals when trains make regular operating stops or perform switching operations on approach circuits:
Controls shall be designed to provide that warning devices are operating before train enters crossing.
Automatic control of the warning devices actuated by approaching trains other than the train that has stopped or is performing switch operations shall take precedence over any cutout features.
Hand-throw switches equipped with circuit controllers shall not cause the warning devices to operate without trains within the approach circuits when the switch is reverse.
Warning devices shall operate until the rear of the train clears the crossing for trains operating in either direction; pedestrian bells at crossings equipped with automatic gates shall only operate until the gate arm has reached the horizontal position.

6. **Solid State Control Devices**

a. Software Design

The system shall be designed such that no single component failure can result in unsafe operation. Also, any component failure which could result in unsafe operation because of successive component failures shall revert to the fallback mode as described therein.
All executive and vital system software, including all self-checks, shall be installed in the system in a manner that shall prevent unintentional changes by the user.
Location specific vital and non-vital software shall be programmable by the user and shall be stored in non-volatile memory. Field adjustable items shall not be locked by the program and shall be available for field adjustment. Programmable field adjustments shall be password protected, capable of adjustment after entry of the correct password.
The system shall automatically reset and should attempt a restart after a condition causing system shutdown is eliminated.
The system shall remain in fallback mode until self-initialization software and hardware tests have been completed to determine that the system is operating properly.
The system shall contain internal diagnostics to permit troubleshooting.

b. Operation

Alternating flashing 12 in LED and bell outputs shall energize no more than 1.0 second after control or GP inputs are de-energized.
Alternate lamp flashing rate should be adjustable over the range of 45 to 60 Flashes per Minute (FPM).
Gate control output shall de-energize a minimum of 3.0 seconds after control input is de-energized. Gate control output de-energization delay should be field adjustable from 3 to 5 seconds.
Where gate control is provided, gate control output shall energize no more than 1.0 second after control input is energized. Where gate control is not provided, flashing lamp and bell outputs shall de-energize no more than 1.0 second after control unit is energized.
System power supply shall provide all system operating power from the AC line, independent of standby battery, when AC power is present and within the range specified

herein.
System shall operate from standby battery, independent of AC power, when AC power is off or inadequate to provide normal system operation.
System power supply should float charge battery to manufacturer's specifications.
Flashing and steady flasher voltages should remain within 2% of preset levels under normal conditions.
Means shall be provided to manually energize either side of the flashing lamp circuit continuously, with the other side off, for lamp voltage adjustment under actual operating conditions. If provided de-energizing control input (on approach of a train) shall flash one or both sets of lamps to provide warning indication and override manual control.

c. Control Inputs

Control inputs shall require 12 V DC into a load resistance of 500 ohms to maintain warning device drive in a clear condition. Control input resistance shall be 250 to 1000 ohms. Control input voltage less than 4.0 V shall result in activation of the crossing warning devices. Multiple vital and gated control inputs shall be provided integrally or as an accessory.

d. Control Outputs

The system shall be provided complete with all the required power supplies and accessories and shall provide the following outputs to drive the crossing warning devices:
Three-wire alternately flashing lamp drives, which shall provide a minimum of 12.0 V to operate the nominal 10 V signal lamps with load rating as specified by the Manufacturer.
Steady energy lamp drives from two wires of the three wire flashing lamp circuit, which shall provide a minimum of 12.0 V to operate the nominal 10 V gate arm tip lamps with load rating specified by the Manufacturer.
Highway crossing gate controls, which shall provide 4.0 amps at a minimum of 11.0 V DC to raise the gates and maintain them in a clear position and fall to 1.0 V maximum to lower the gates.
Warning bell drives shall provide 4.0 amps at a minimum 11.0 V DC to operate the existing mechanical type crossing warning bells and a minimum of 0.25 amps at a minimum of 11.0 V DC to operate the existing electronic type bells.

e. Gate Position

When equipped for gate control, the system shall have a gate position (GP) input for a nominal 13.5 V DC and a minimum of 25 ohms resistance. When the GP circuit voltage falls below 4.0 V DC, the flashing LED, gate arm tip LED and bell circuits shall be energized.

f. Fallback Mode

In the event of a failure which would impair the system from operating, the highway crossing warning device properly in response to control and GP input signals, the controller shall have a fallback mode which shall assure the following minimum operating capabilities when the control input signal is de-energized:
Flashing LED power is applied at 12 V to at least one of each lamp pair, with either

flashing or steady energy.
Gate control output is de-energized
Bell control output is energized at 11 V DC
Operation meets the operating criteria specified for the primary controller operating system.
During failure of the crossing warning system any traffic signal interconnection shall be in its most restrictive state.

g. DTMF Remote Activation

All station crossings shall be provided with Dual Tone Multi-Frequency (DTMF) Remote Activation. Activation of the crossing active warning system shall be provided by a Dual Tone Multi-Frequency Input/output (DTMF I/O) Remote Activation System. The system shall provide a DTMF activation code to enable maintenance forces to activate the crossing warning system and the crossing warning system to be returned to a normal state by using an estimated 30 second reset timer. Operating the warning system with the DTMF system shall not interfere with the normal operation of the warning system upon detection of a train or OTE approaching the crossing. After a field adjustable time interval, the DTMF system will return the crossing to normal operation if activated. The DTMF System shall provide an output to control the crossing warning system and shall record activation using the DTMF code on the event recorder. The DTMF System shall operate at 12 VDC. The activation code shall be the last three digits of the DOT number for the crossing to be controlled followed by the "#" for activation. Instances where adjacent crossing may be affected by duplication of the DTMF code shall be identified by the Designer and alternative code identification shall be used to activate individual crossings in the vicinity. The Designer shall provide the CFRC with the DTMF codes.

h. Pedestrian Crossings Operations at Stations

DTMF Remote Activation as described in Section 6.6.7 shall be provided at all station pedestrian crossings. As shown in the concept plans, pedestrian gates are to be installed at pedestrian crossings per Section 6.2. They will utilize flashing lights, bells and gates. Swing gates are also to be provided to allow pedestrians to clear the tracks after the gates are down.

i. Highway-Rail Grade Crossings Operations at Stations

The operation for grade crossings adjacent to stations is for the crossing devices to clear after initial operation so that vehicles and pedestrians can cross while SunRail dwells in the station. The distance the crossing is from the station and the volume of pedestrians/vehicles using the crossing are factors that need to be considered in making the final determination. The preferred operation is:

The crossing(s) activate as a SunRail train approaches the station. If there are crossings next to the station, both on the north and south side, then the crossings are to function independent of the other
Both crossing devices shall clear after it has been determined that a SunRail train has stopped at the station, allowing pedestrians/vehicles to use the crossing
The crossing in front of a SunRail train will activate upon movement of the train out of

the station toward the crossing and/or the use of the DTMF remote activation code is keyed in by the train.
Preemption shall not be removed from any crossing without prior written approval by the Department.

7. **Warning System Devices**

a. General

Warning system devices shall be installed based on the information provided in the Highway-Rail Grade Crossing Improvement Requirements table as provided in the Appendix of this Design Criteria. Pedestrian gates are required on both sides of a Highway-Rail Grade Crossing where there is a sidewalk on both sides of the rail and the roadway gate does not also cover the sidewalk.

b. Gate Mechanisms and Gate Arms

Gate arm lights shall be of LED type technology. Gates shall have 4 inch LED flashers. The gate flashers shall operate in conjunction with the highway grade crossing signal as follows:
Lights shall operate at all times when the gate is in position to obstruct highway traffic. Light nearest the tip of arm shall be steadily lit.
Two lights shall flash alternately and in unison with the lights on the highway crossing warning signal.
Gate arms shall start in downward motion not less than 3 seconds or greater than 5 seconds after the flashing lights start to operate.
Gate arms shall reach the full horizontal position five seconds before arrival of any train and shall remain in that position until the rear of the train has cleared the crossing.
Circuits shall be so arranged that a failure of the gate mechanism to operate as intended shall not prevent the lights on the gate arm and signal from operating on the approach of a train.
Where bell(s) are used with gates, a warning shall sound from the time the signal lights start to operate until the gate arm has descended to within 10 degrees of the horizontal position. The bells shall also operate when the gate is being raised.
Voltage adjusting resistors shall be provided to field adjust individual lamp and bell voltage levels.
Gates shall not be located more than 15 ft. from center line of track.

c. Flashing Light Signals

All flashers (gate and pole mounted) shall be based upon LED technology in accordance with current AREMA guidelines. Pole and cantilever flashers shall be 12 inch LED's.

d. Crossing Bell

Electronic bells shall be used at all highway/rail grade crossings and new pedestrian crosswalks. There shall be a minimum of two crossing bells per highway grade crossing.

e. Second Train Warning Signs

Second Train warning signs shall be retained at each pedestrian crosswalk on the intertrack fence facing each platform such that the sign is visible to pedestrians prior to entering the pedestrian crosswalk surface. Second Train warning signs shall be retained at each highway-rail grade crossing directly adjacent to the station platforms

8. **Standby Battery**

The system power supply shall be designed in accordance with FRA 234 and provide eight hours of standby back-up battery for 40 train moves. Battery power calculations shall be provided to indicate proper sizing of the battery capacity.

I. Miscellaneous Signal Material

1. **General**

All portions of the signal system shall meet the requirements set forth in this document. All equipment used shall be standard products produced by manufacturer regularly engaged in the production of such equipment or material, conform to all applicable codes and standards, include current AREMA recommended practices and be compatible with existing CFRC equipment in the corridor.

2. **Vital Relays**

All vital relays shall be of the plug-in, biased neutral type with a minimum of 6 independent contacts, except in case of special application requirements. A minimum of one spare front-heel-back contact set shall be provided within each relay group. The relay group is defined to mean a relay and all subsequent repeaters that are designed to energize and de-energize together with that relay without additional delay.

Vital relays, other than those used as track relays, shall operate on 12 V DC.

All relays shall be configured so as to be able to ascertain the state, energized or de-energized, by visual inspection while in use.

All furnished relays shall conform to all applicable Manual portions of the AREMA Signal Manual.

The relays shall be magnetically biased unless otherwise shown. Relays shall be provided with a means to permit de-energizing from the front.

Relays shall not be mounted more than 6 ft. from the floor and shall be secured from vibration in racks. Relays shall not be mounted on the bottom row of the relay racks (a minimum of one relay base height from floor or 12 inches).

Relays shall have indexing pins to prevent insertion of an improper relay in relay plugboards. The fastening of relay to plugboard shall be so arranged as to securely hold the relay in place and yet be readily removable.

3. **Non-Vital Relays**

Non-vital relays shall be of the plug-in, rack-mounted type and hermetically sealed. They shall have an operating voltage range of 12 to 24 VDC, except special application relays such as Power Off relays. Non-vital relays shall conform to AREMA Signal Manual, Part 6.3.1.

4. **Cable**

All cabling shall comply with the AREMA Recommended Signal Practices for Direct Burial solid conductor cabling and in accordance with Part 10.4.1 (Wire and Cable) and Part 10.4.30 (Wiring) and have the following characteristics:
Insulation shall be rated for 600 V
Cable shall be direct burial cable installed at a depth of 30 inches outside of track area and at 36 inches below the top of tie when crossing the track area.
Cabling shall be solid annealed copper.
Cables crossing track(s) shall be installed in high impact Schedule 80 PVC conduit or an approved equivalent, 36 inches below the top of railroad tie.
Aerial cable installation shall not be used without special permission from the Department.
Cables shall have 20% spare capacity.
Express and local signal cables shall be supplied and installed. It shall be the responsibility of the Contractor to determine the cable requirements. Cable types shall be defined consistent with the application, and all cables used for like purpose shall be of identical type.

Cable splices shall not be allowed without prior written acceptance by the Department.

All cable shall run through protective conduit where exiting or entering any housing or junction box.

5. **Case Wiring**

The signal designer shall size all wire in order to assure proper operation of the apparatus on the basis of equipment loads and the operating parameters for the systems described in this specification.

Wire for interconnection of apparatus involved in vital signal circuits shall not be less than No. 16 AWG, 19 strand wire. For all lighting circuits and local buss feeds, the wire shall not be less than No. 10 AWG, 27 strand wire. For track circuits inside the signal location, wire shall be two conductors #10 AWG twisted pair, nominal 10 twists per ft.

All local wiring shall be routed through cable ways or dressed with cable ties following a regular vertical and horizontal pattern consistent with the wiring required.

Vital circuit rack wiring shall be accomplished with solderless connections using stranded wire, minimum size No. 16 AWG and shall use closed end energy loops where practicable. Non-vital circuit wiring shall be accomplished with solderless connections using stranded wire, minimum size No. 20 AWG, and shall include non-vital relay connections. All wires not inside plastic wireways shall be neatly laced using plastic wire ties.

6. **Tagging**

All apparatus, cable wires and wires shall be tagged. For vital circuits, tags shall be furnished on every wire at each termination point showing termination designation. Nomenclature used shall be consistent with AREMA.

All cable terminations shall be clearly tagged to identify the circuit associated with each conductor used. Each individual wire of all local wiring shall be clearly tagged near each termination with the circuit identification.

Stenciled markings shall be provided within equipment houses or cases.

Every relay, device, and electronic component shall be clearly marked with an identification clearly describing its function by tagging with embossed label or approved equal.

7. AC Power Supply (Commercial Power)

The power system shall be fed directly from local utilities located along the corridor. Where possible, each house shall receive local service from the power utility company that serves the local area.
Highway/rail grade crossings: Provide a minimum 100 Amp 240 V AC power source as the normal power feed.
Interlockings: Provide a minimum 100 Amp 240 V AC power source.
Power requirements shall be calculated for the equipment installed at each location with sufficient service being provided.
At locations where a service pole is required, it shall meet the requirements of the local Power Company and ANSI 05.1-1979 except when modified. The service pole shall be wood, Class 1 (4,500 lb breaking load) and treated full-length with a waterborne preservative or shall be an approved equivalent.
Transformers shall be single phase, air-cooled dry type, capable of operating in 60 Hz environment and shall conform to the AREMA Signal Manual, Section 14. All commercial items not stated within shall be in accordance with applicable rulings or standards of the Institute of Electrical and Electronic Engineers, Underwriter's Laboratories, Inc. or the National Electrical Manufacturers Association.

8. Batteries and Charging

Vital signal equipment operates nominally on 12 or 24 VDC. All power sources shall be supported by maintenance-free storage batteries. The storage batteries shall be sized to provide 8 hours of standby service at maximum load after a power failure. Maximum load is defined as 40 activations over this 8 hour period.
Batteries shall be used to back up all vital signal circuit power sources including switch batteries. Battery chargers shall be placed in parallel with the batteries so that they are constantly under load and charge and do not require a device to perform a transfer.
The battery chargers shall be temperature compensated, constant potential type operating on 60 Hz. Chargers shall be current limiting to prevent damage during overload conditions. The charger shall be compatible with maintenance-free batteries as per specification.
All storage batteries shall be housed within the confines of the wayside signal cases and houses. The Department shall consider applications whereby a separate battery box is required to maintain the size of the overall signal house.

9. **Pipe and Conduits**

At highway/rail grade crossings being renewed or replaced the Contractor shall install new cables in RGS conduit or an approved equivalent under roadways and PVC conduits or an approved equivalent under tracks. Additionally, one unused spare conduit of the appropriate type shall be installed. One additional conduit shall be provided under roadways and tracks for future cable replacement. Spare conduits shall be documented and shown on the final as-built drawings with dimensions provided to fixed objects.

10. **Precast Foundations**

Buried precast foundations shall be used for wayside signal foundations, highway/rail grade crossing gates and cantilevers, and signal bridges. Helical foundations are an acceptable alternative to precast foundations for flashers and gate mechanisms where geotechnical conditions provide the capability to support the structure attached. The Department shall direct the CFRC Standards to be used.

11. **Grounding**

Grounds shall be provided for transformer cases and other metal housing for transformers and associated apparatus. The grounding system shall have a resistance to earth of not more than 5 ohms. Ground wire shall be in accordance with the AREMA Manual, Parts 11.1.2 and 11.1.3. The ground wire shall be base copper wire not smaller than No. 6 AWG with a continuous below ground length not less than 12 ft.

12. **Signal Support Hardware**

Signal hardware shall be a rust-proof low-maintenance material, such as galvanized steel or aluminum.

13. **Additional Equipment**

a. Terminals and Binding Posts

Solderless-type insulated wire terminals shall be used at the end of each wire. The terminals shall be attached to the conductor with a tool recommended by the terminal manufacturer in such a manner that the flexibility of the conductor shall not be destroyed, and the possibility of breakage at the terminal shall be reduced to a minimum. The insulation of the ring eye terminals shall be crimped to grip the wire insulation. Solid wire cables cannot have terminals crimped onto the wires. The Contractor must eye up the ends of direct burial cable for termination

Terminal posts shall be provided for all cable conductors including spares. All cable terminals shall consist of a double column of vertical terminals equipped with insulated test links. An additional 10% spare terminal posts shall be provided on all entrance racks.

All relays and cable terminations shall be provided with a method of quickly opening and

closing electrical connections at points required for test purposes, without removal of wiring.

b. Lightning and Surge Protection

The Contractor shall provide all surge protection, lightning protection and related equipment necessary for installation. Low voltage and high voltage lightning protection shall be provided as specified by the manufacturer's requirements for all circuits that are directly susceptible to such influence. All track wires, line cables, signal lighting cables, power cables, and communication cables shall be protected by lightning arrestors and/or surge protection as required. All direct current buses shall have surge protection. A Faraday cage shall be provided for entrance terminal boards.

Lightning and surge protection shall be designed in accordance with the industry standards.

c. Components Not Listed

Any components not specifically described in this document shall meet or exceed the requirements of the AREMA Signal Manual and shall be suitable for the intended purpose and approved by the Department. These components shall be designed for use in the environment necessary for rail operations and shall be proven technology in current use within the railroad industry.

J. Signal Construction Standards

1. **General**

Infrastructure

This section describes the station cabinets required to house the equipment.

Description

Design communications infrastructure components meeting the requirements of the Specifications, Final Design Plans and the specific requirements for each component as defined in the Department's Intelligent Transportation System (Requirements) 785-2 through 785-5.

2. **Grounding and Surge Protection**

Design grounding and surge protection for all equipment and materials to provide personnel and equipment protection against faults, transient voltage surges, and induced current. Ensure that the grounding system used meets the grounding requirements defined in Department Section 620 and in Section 785-1.

Design all components with surge protection devices (SPDs) as shown in the plans and according to the device manufacturer's recommendations. Ensure that the SPDs are capable of meeting or exceeding the device protection requirements as contained in Section 785-1 and that they are listed on the Department's APL. Consider multiple devices installed in the same

equipment cabinet to be a single installation for the purpose of providing grounding and surge suppression. Protect all conductive power, voice, video and data lines. Provide surge protection both ahead of and behind (i.e., on the supply side and the load side of) electronic devices connected using conductive wiring.

a. Grounding Specifications

Use a grounding electrode system to achieve a resistance to ground measurement of 5 ohms or less.

b. Air Terminals

Ensure that the air terminal extends at least 2 ft. above the object or area it is to protect and is mounted at the top of the pole or structure in such a way as to allow for an exothermic weld connection to the grounding down cable. All electronic devices attached to structures having air terminals shall be within the zone of protection determined by the 150-foot radius rolling sphere model described in NFPA 780. Provide a lightning protection system as shown in the plans. Design additional air terminals, static wires, and conductors as required by the manufacturer of large equipment such as VMS units that may necessitate more than one terminal to protect the structure and equipment.

c. Surge Protection Devices

Design all equipment cabinet sites with both primary and secondary surge protection on the AC power. Design connection to the primary surge protection at the service entrance or main disconnect and the secondary surge protection on the power distribution to the equipment.

SPD Device at Power Entry Point:

Design a SPD at the closest termination/disconnection point where the 120 V supply circuit enters the equipment cabinet. Locate the SPD on the load side of the service disconnect and ahead of any and all electronic devices

SPD Device at Point of Use

Design a SPD at the point the equipment cabinet receive 120 V power. Ensure that the units are rated at 15 or 20 A, as required, and configured for hardwiring or receptacles to meet the device requirements. Receptacle configuration units may be grouped as long as all listing and performance requirements can be met.

SPD for Low-Voltage Power, Control, Data and Signal Systems

Design a specialized SPD at the supply and line sides of all low-voltage connections to the equipment cabinet device and its operating subsystems. These connections shall include, but are not limited to, Category 5 data cables, coaxial video cables, twisted pair video cables, and low voltage control cables that comply with Electronic Industries Alliance (EIA) requirements as detailed in the EIA-232/422/485 standards.

3. Equipment Cabinet

Design an equipment cabinet for housing electronic equipment and network devices including, but not limited to, Managed Field Ethernet Switches, hub switches, device servers, digital video encoders, public address equipment and VMS equipment. The cabinet should restrict unauthorized access, constructed without sharp edges and be weather resistant under all conditions. The cabinets shall be sized so there is a minimum of 30% free space available for future use after installation of equipment, conduits, and cable.

a. Electrical Requirements

All equipment designed shall conform to applicable UL, NEC, EIA, ASTM, ANSI and IEEE requirements. Provide SPDs for the main AC power input at the service panel assembly and on both sides of all electronics as required by 785-2. Ensure that the SPD is accessible from the front of any panel used in the cabinet.

Service Panel Assembly: A service panel assembly shall be designed to function as the entry point for AC power to the cabinet and the location for power filtering, transient suppression and equipment grounding. Provide branch circuits, SPD, and grounding only as required for the device-connected load served by the cabinet, including ventilation fans, internal lights, electrical receptacles, etc.

Terminal Blocks:

Terminate electrical inputs and outputs on terminal blocks where the voltage and current rating of the terminal block is greater than the voltage and current rating of the wire fastened to it. Number all terminal block circuits and cover the blocks with a clear insulating material to prevent inadvertent contact.

Ground Bus Bar:

Design the ground bus bar on the side of the cabinet wall adjacent to the service panel assembly for the connection of AC neutral wires and chassis ground wires. If more than one ground bus bar is used in a cabinet, use a minimum of a #10 AWG copper wire to interconnect them.

Power Distribution Assembly: Design a power distribution assembly that fits in the EIA 19-inch rack and provides for protection and distribution of 120/240 VAC power.

Interior Lighting: The equipment cabinet shall be designed with two 20-watt fluorescent lamps and clear shatter-proof shield assemblies which are mounted on the inside front and rear top of the cabinet. The equipment cabinet shall have door-actuated switches so that the lamps automatically turn on when either cabinet door is opened and go off when the doors are closed.

4. Electrical Installation

Design for electrical power to the equipment.

Provide all electrical connections from the service drop to the receptacles. The receptacles, switches, and light fixtures shall use a minimum of AWG #12 copper wires. The electrical loads shall be divided among as many load centers as necessary to contain the quantity of circuit breakers required to protect the facility.

K. Specifications:

Department Specifications may not be modified or revised. Technical Special Provisions shall be written only for items not addressed by Department Specifications, and shall not be used as a means of changing Department Specifications.

The Design-Build Firm shall prepare and submit a signed and sealed Construction Specifications Package for the Project, containing all applicable Division II and III Special Provisions and Supplemental Specifications from the Specifications Workbook in effect at the time the Bid Price Proposals were due in the District Office all Division II and III specifications provided as Attachments to this RFP, and any signed and sealed Technical Special Provisions. Any subsequent modifications to the Construction Specifications Package shall be prepared, signed and sealed as a Supplemental Specifications Package. The Specifications Package shall be prepared, signed and sealed by the Design-Build Firms Engineer of Record who has successfully completed the mandatory Specifications Package Preparations Training.

The website for completing the training is at the following URL address:

http://www2.dot.state.fl.us/SpecificationsEstimates/PackagePreparation/TrainingConsultants.aspx

Specification Workbooks are posted on the Department's website at the following URL address:

https://www2.dot.state.fl.us/SpecificationsPackage/Utilities/Membership/login.aspx?ReturnUrl=%2fspecificationspackage%2fDefault.aspx.

Upon review and approval by the Department, the Construction Specifications Package will be stamped "Released for Construction" and initialed and dated by the Department.

L. Shop Drawings:

The Design-Build Firm shall be responsible for the preparation and approval of all Shop Drawings. Shop Drawings shall be in conformance with the Departments Plans Preparation Manual when submitted to the Department and shall bear the stamp and signature of the Design-Build Firm's Engineer of Record (EOR), and Specialty Engineer, as appropriate. The Department shall review the Shop Drawing(s) to evaluate compliance with Project requirements and provide any findings to the Design-Build Firm. The Departments procedural review of shop drawings is to assure that the Design-Build Firm's EOR has approved and signed the drawing, the drawing has been independently reviewed and is in general conformance with the plans. The Department's review is not meant to be a complete and detailed review. Upon review and approval of the shop drawing, the Department will initial, date, and stamp "Released for Construction" or "Released for Construction as Noted".

Shop Drawing submittals must be accompanied by sufficient information for adjoining components or areas of work to allow for proper evaluation of the Shop Drawing(s) submitted for review.

M. Sequence of Construction:

The Design-Build Firm shall construct the work in a logical manner and with the following objectives as guides:

1. Maintain or improve, to the maximum extent possible, the quality of existing traffic operations, both in terms of flow rate and safety, throughout the duration of the Project.
2. Minimize the number of different Traffic Control Plan (TCP) phases, i.e., number of different diversions and detours for a given traffic movement.
3. Take advantage of newly constructed portions of the permanent facility as soon as possible when it is in the best interest of traffic operations and construction activity.
4. Maintain reasonable direct access to adjacent properties at all times, with the exception in areas of limited access Right-of-Way where direct access is not permitted.
5. Coordinate with adjacent construction Projects and maintaining agencies.
6. Prior to starting work on any portion of track the Design-Build firm shall conduct a walkthrough with the Department and the Department's Signal Maintenance Contractor to confirm existing conditions. The Department shall make the final determination of existing conditions.

N. Stormwater Pollution Prevention Plans (SWPPP):

The Design-Build Firm shall prepare a Storm Water Pollution Prevention Plan (SWPPP) as required by the National Pollution Discharge Elimination System (NPDES). The Design-Build Firm shall refer to the Department's Project Development and Environment Manual and Florida Department of Environmental Protection (FDEP) Rule 62-621.300(4)(a) for information in regard to the SWPPP. The SWPPP and the Design-Build Firm's Certification (FDEP Form 62-621.300(4)(b) **NOTICE OF INTENT (NOI) TO USE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES)** shall be submitted for Department review and approval. Department approval must be obtained prior to beginning construction activities.

O. Temporary Traffic Control Plan:

1. **Traffic Control Analysis:**

The Design-Build Firm shall design a safe and effective Temporary Traffic Control Plan to move vehicular and pedestrian traffic during all phases of construction. Topics to be addressed shall include, but are not limited to, construction phasing, utility relocation, drainage structures, signalization, ditches, front slopes, back slopes, drop offs within clear zone, temporary roadway lighting and traffic monitoring sites. Special consideration shall be given to the drainage system when developing the construction phases. Positive drainage must be maintained at all times.

The Temporary Traffic Control Plan shall address how to assist with maintenance of traffic throughout the duration of the contract.

The Temporary Traffic Control Plan shall be prepared by a certified designer who has completed the Department's Advanced Maintenance of Traffic training course, and in accordance with the Department's Design Standards and the Plans Preparation Manual.

Transportation Management Plans (TMPs) are required for significant Projects which are defined as:

1. A Project that, alone or in combination with other concurrent Projects nearby, is anticipated to cause sustained work zone impacts**.**

2. All Interstate system Projects within the boundaries of a designated Transportation Management Area (TMA) that occupy a location for more than three days with either intermittent or continuous lane closures shall be considered as significant Projects.

A TMP will consist of three components:

(1) Temporary Traffic Control (TTC) plan component;
(2) Transportation Operations (TO) component; and
(3) Public Information (PI) component

Additional information can be found in Volume 1 / Chapter 10 of the PPM.

2. **Temporary Traffic Control Plans:**

The Design-Build Firm shall utilize Index Series 600 of the Department's Design Standards where applicable. Should these standards be inadequate, a detailed Temporary Traffic Control Plan shall be developed. The Design-Build Firm shall prepare plan sheets, notes, and details to include the following: typical section sheet(s), general notes and construction sequence sheet(s), typical detail sheet(s), traffic control plan sheet(s).

The Design-Build Firm shall prepare additional plan sheets such as detours, cross sections, profiles, drainage structures, temporary roadway lighting, retaining wall details, and sheet piling as necessary for proper construction and implementation of the Temporary Traffic Control Plan.

3. Pedestrian and Bicycle Access During Construction

Design-Build Firm shall maintain existing pedestrian access on all sidewalks, transit facilities, and at all intersections. Pedestrian sidewalks and paths shall be maintained and continue to conform to ADA requirements. When the Design-Build Firm allows work areas to encroach upon a sidewalk or crosswalk area, and a minimum clear width of 4' cannot be maintained for pedestrian use, an alternative accessible pedestrian route shall be provided.

4. **Traffic Control Restrictions:**

There will be NO LANE CLOSURES allowed between the hours of **__6:00 to 10:00_**AM **and 3:00** to **7:00_**PM**.** A lane may only be closed during active work periods. There will be no DETOURS allowed. All lane closures, including ramp closures, must be reported to the local emergency agencies, the media and the District ___5_____information officer. Also, the Design-Build Firm shall develop the Project to be able to provide for all lanes of traffic to be open in the event of an emergency.

P. Environmental Services/Permits/Mitigation:

The Design-Build Firm will be responsible for preparing designs and proposing construction methods that are permittable. The Design-Build Firm will be responsible for any required permit fees. All permits

required for a particular construction activity will be acquired prior to commencing the particular construction activity. Delays due to incomplete or erroneous permit application packages, agency rejection, agency denials, agency processing time, or any permit violations, except as provided herein, will be the responsibility of the Design-Build Firm, and will not be considered sufficient reason for a time extension or additional compensation. As the permittee, the Department is responsible for reviewing, approving, signing, and submitting the permit application package including all permit modifications, or subsequent permit applications.

Q. Signing and Pavement Marking Plans:

The Design-Build Firm shall prepare signing and pavement marking plans in accordance with Department criteria.

A Conceptual Signing Plan has been provided by the Department (Reference Document xx) identifying potential signing locations and language within the Project limits. No structural analysis was performed for the Conceptual Signing Plan.

The Design-Build Firm shall be responsible for the design of all new or retrofit sign supports (post, overhead span, overhead cantilever, bridge mount and any applicable foundations). The Design-Build Firm shall show all details (anchor bolt size, bolt circle, bolt length, etc.) as well as all design assumptions (wind loads, support reactions, etc.) used in the analysis. Mounting types for various signs shall not be changed by the Design-Build Firm (i.e. if the proposed or existing sign is shown as overhead it shall be overhead and not changed to ground mount) unless approved by the Department. Any existing sign structure to be removed shall not be relocated and reused, unless approved by the Department.

It shall be the Design-Build Firm's responsibility to field inventory and show all existing signs within the Project limits and address all regulatory, warning and signage along the Project. Existing single and multi-post sign assemblies impacted by construction shall be entirely replaced and upgraded to meet current standards. Existing sign assemblies not impacted by construction can remain.

VII. Technical Proposal Requirements:

A. General:

Each Design-Build Firm being considered for this Project is required to submit a Technical Proposal. The proposal shall include sufficient information to enable the Department to evaluate the capability of the Design-Build Firm to provide the desired services. The data shall be significant to the Project and shall be innovative, when appropriate, and practical.

B. Submittal Requirements:

The Technical Proposal shall be bound with the information, paper size and page limitation requirements as listed herein.

A copy of the written Technical Proposal must also be submitted in .pdf format including bookmarks for each section on a CD, DVD, or Flash Drive. Bookmarks which provide links to content within the Technical Proposal are allowed. Bookmarks which provide direct to information not included within the

content of the Technical Proposal shall not be utilized. No macros will be allowed. Minimum font size of ten (10) shall be used. Times New Roman shall be the required font type.

Only upon request by the Department, provide calculations, studies and/or research to support features identified in the Technical Proposal. This only applies during the Technical Proposal Evaluation phase.

Submit 1 Original, seven (7) CD's, DVD's or Flash Drives containing the Technical Proposal in .pdf format and seven(7) collated, complete sets of hard copies of the Technical Proposal to:

Michelle Sloan
Procurement Services
Florida Department of Transportation, District 5
719 South Woodland Boulevard
DeLand, Florida 32720

The minimum information to be included:

Section 1: Project Approach

- Paper size: 8½" x 11". The maximum number of pages shall be (15), single-sided, typed pages including text, graphics, tables, charts, and photographs. Double-sided 8½" x 11" sheets will be counted as 2 pages. 11"X17" sheets are prohibited.
- Describe how the proposed design solutions and construction means and methods meet the project needs described in this Request for Proposal. Provide sufficient information to convey a thorough knowledge and understanding of the project and to provide confidence the design and construction can be completed as proposed.
- Provide the term, measureable standards, and remedial work plan for any proposed Value Added features that are not Value Added features included in this RFP, or for extending the Value Added period of a feature that is included in this RFP. Describe any material requirements that are exceeded.
- Provide a Written Schedule Narrative that describes the Design and Construction phases and illustrates how each phase will be scheduled to meet the Project needs required of this Request for Proposal. Bar or Gantt charts are prohibited. Do not reveal or describe the Proposed Contract Time. Proposed Contract Time will be evaluated when Bid Price Proposals are received.

Section 2: Plans and Technical Special Provisions

- Plan and Profile views of the proposed improvements shall be submitted in roll-plot format. The maximum width of the roll-plots shall be 36". The maximum length of the roll-plot shall be 8'. Inclusion of additional information on the roll-plot, other than depictions of the Plan and Profile views, is allowed provided it clarifies the plan and profile views. However, the Department may determine that such additional information is excessive and may require the Design-Build Firm to revise and resubmit the roll-plots. If this occurs, the Design-Build Firm will have 2 business days to revise and resubmit the roll-plots upon

notification by the Department. All other information not included on the roll plots, such as typical sections, special emphasis details, structure plans, etc., shall be provided on 11”x17” sheets.

- Provide Landscape Opportunity Plan sheets that depict a Bold Landscape design for the entire project limits. The Landscape Plan shall include graphic plant symbols that show the plant location, plant type, plant quantity, plant botanical and common name and installed plant size. Paper size shall be 11”x17”.
- Right-of-Way Maps and Legal Descriptions (including area in square feet) of any proposed additional Right-of-Way parcels if applicable and approved through the ATC process. Provide Technical Proposal Plans in accordance with the requirements of the Plans Preparation Manual, except as modified herein.
- The Plans shall complement the Project Approach.
- Provide any Technical Special Provisions which apply to the proposed work. Paper Size: 8½" x 11".

C. Evaluation Criteria:

The Department shall evaluate the written Technical Proposal by each Design-Build Firm. The Design-Build Firm should not discuss or reveal elements of the price proposal in the written proposals. A technical score for each Design-Build Firm will be based on the following criteria:

Item	Value
1. Design	35
2. Construction	40
3. Innovation	0
4. Value Added	5
Maximum Score	**80**

The following is a description of each of the above referenced items:

1. Design (_35_ points)

Credit will be given for the quality and suitability of the following elements:

- Structures design
- Roadway design / and safety
- Drainage design
- Environmental Design
- Design coordination plan minimizing design changes
- Geotechnical investigation plan
- Geotechnical load test program

- Minimizing impacts through design to:
  - Environment
  - Public
  - Adjacent Properties
  - Structures
- Traffic Control Plan design
- Incident Management Plan
- Aesthetics
- Utility Coordination and Design
- Design considerations which improve recycling and reuse opportunities

Credit will be given for aesthetics features of the design including but not limited to the following: considerations in the geometry, suitability and consistency of structure type, structure finishes, shapes, proportions and form throughout the limits of the project.

Architectural treatments such as tiles, colors, emblems, etc. will not be considered as primary aesthetic treatments.

Credit will be given for design and utility coordination efforts that minimize the potential for adverse impacts and project delays due to utility involvement.

Credit will be given for development of design approaches which minimize periodic and routine maintenance. The following elements should be considered: access to provide adequate inspections and maintenance, access to structure's lighting system, and impacts to long term maintenance costs.

2. **Construction (_40_ points)**

Credit will be given for the quality and suitability of the following elements:

- Safety
- Structures construction
- Roadway construction
- Drainage construction
- Construction coordination plan minimizing construction changes
- Minimizing impacts through construction to:
  - Environment
  - Public
  - Adjacent Properties
  - Structures
- Implementation of the Environmental design and Erosion/Sediment Control Plan
- Implementation of the Maintenance of Traffic Plan
- Implementation of the Incident Management Plan
- Utility Coordination and Construction

Credit will be given for developing and deploying construction techniques that enhance project durability, reduce long term and routine maintenance, and those techniques which enhance public and worker safety.

This shall include, but not be limited to, minimization of lane and driveway closures, lane widths, visual obstructions, construction sequencing, and drastic reductions in speed limits.

Credit will be given for insuring all environmental commitments are honored.

Credit will be given for construction and utility coordination efforts that minimize the potential for adverse impacts and project delays due to utility conflicts.

3. **Innovation (_0_ points)**

Credit will be given for introducing and implementing innovative design approaches and construction techniques which address the following elements:

- Minimize or eliminate Utility relocations
- Materials
- Workmanship
- Enhance Design and Construction aspects related to future expansion of the transportation facility

4. **Value Added (_5_ points)**

Credit will be given for the following Value Added features:

- Broadening the extent of the Value Added features of this RFP while maintaining existing threshold requirements
- Exceeding minimum material requirements to enhance durability of project components
- Providing additional Value Added project features proposed by the Design-Build Firm

The following Value Added features have been identified by the Department as being applicable to this project. The Design-Build Firm may propose to broaden the extent of these Value Added features.

Value Added Feature	Minimum Value Added Period
Value Added Asphalt	3 years
Value Added Concrete Pavement	5 years
Value Added Bridge Components	5 years

D. Final Selection Formula:

The Department shall publicly open the sealed bid proposals and calculate an adjusted score using the following formula:

$$\frac{BPP}{TS} = \text{Adjusted Score}$$

BPP = Bid Price Proposal
TS = Technical Score (Combined Scores from LOI and Technical Proposal)

Points will be added to the Technical Score, at the time of Bid Price Proposal opening, according to the Proposed Contract Time based on the following table. The number of days shown on the bid proposal form shall be the official Proposed Contract Time.

Proposed Contract Time (Days)	Points Awarded
340 - 329	0
328 - 317	1
316 - 305	2
304 - 293	3
292 - 281	4
280 or less	5

The Design-Build Firm selected will be the Design-Build Firm whose adjusted score is lowest.
The Department reserves the right to consider any proposal as non-responsive if any part of the Technical Proposal does not meet established codes and criteria. If the Proposed Contract Time is greater than Maximum Contract Time of (340) calendar days the Bid Price Proposal will be considered non-responsive.

E. Final Selection Process:

After the sealed bids are received, the Department will have a public meeting for the announcement of the Technical Scores and opening of sealed Bid Price Proposals. This meeting will be recorded. At this meeting, the Department will announce the score for each member of the Technical Review Committee, by category, for each Proposer and each Proposer's Technical Score. Following announcement of the Technical Scores, the sealed Bid Price Proposals will be opened and the adjusted scores calculated. The Selection Committee should meet a minimum of two (2) calendar days (excluding weekends and Department observed holidays) after the public opening of the Technical Scores and Bid Price Proposals. The Department's Selection Committee will review the evaluation of the Technical Review Committee and the Bid Price Proposal of each Proposer as to the apparent lowest adjusted score and make a final determination of the lowest adjusted score. The Selection Committee has the right to correct any errors in the evaluation and selection process that may have been made. The Department is not obligated to award the contract and the Selection Committee may decide to reject all proposals. If the Selection Committee decides not to reject all proposals, the contract will be awarded to the Proposer determined by the Selection Committee to have the lowest adjusted score.

F. Stipend Awards:

The Department has elected to pay a stipend to a limited number of non-selected Short-Listed Design-Build Firms to offset some of the costs of preparing the Proposals. The non-selected Short-Listed Design-Build Firms meeting the stipend eligibility requirements of the Project Advertisement and complying with the requirements contained in this section will ultimately be compensated. The stipend will only be payable under the terms and conditions of the Design-Build Stipend Agreement and Project Advertisement, copies of which are included with this Request for Proposal. This Request for Proposal does not commit the Department or any other public agency to pay any costs incurred by an individual firm, partnership, or corporation in the submission of Proposals except as set forth in the Design-Build Stipend Agreement. The amount of the stipend will be $_25,000_ per non-selected Short-Listed Design-Build Firm that meets the

stipend eligibility requirements contained in the Project Advertisement. The stipend is not intended to compensate any non-selected Short-Listed Design-Build Firm for the total cost of preparing the Technical and Price Proposals. The Department reserves the right, upon payment of stipend, to use any of the concepts or ideas within the Technical Proposals, as the Department deems appropriate.

In order for a Short-Listed Design-Build Firm to remain eligible for a stipend, the Short-Listed Design-Build Firm must fully execute with original signatures and have delivered to the Department within one (1) week after the Short-List protest period, four (4) originals of the Design-Build Stipend Agreement, Form No. 700-011-14. The Short-Listed Design-Build Firm shall reproduce the necessary copies. Terms of said agreement are non-negotiable. A fully executed copy of the Design-Build Stipend Agreement will be returned to the Short-Listed Design-Build Firm.

A non-selected Short-Listed Design-Build Firm eligible for stipend compensation must submit an invoice for a lump sum payment of services after the selection/award process is complete. The invoice should include a statement similar to the following: "All work necessary to prepare Technical Proposal and Price Proposals in response to the Department's RFP for the subject Project".

VIII. Bid Proposal Requirements.

A. Bid Price Proposal:

Bid Price Proposals shall be submitted on the Bid Blank form attached hereto and shall include one lump sum price for the Project and the number of calendar days within which the Proposer will complete the Project. The lump sum price shall include all costs for all design, geotechnical surveys, architectural services, engineering services, Design-Build Firms quality plan, construction of the Project, and all other work necessary to fully and timely complete that portion of the Project in accordance with the Contract Documents, as well as all job site and home office overhead, and profit, it being understood that payment of that amount for that portion of the Project will be full, complete, and final compensation for the work required to complete that portion of the Project. One (1) hard copy Bid Price Proposal shall be hand delivered in a separate sealed package to the following:

Ms. Michelle Sloan
Procurement Office
Florida Department of Transportation, District 5
719 South Woodland Boulevard
DeLand, Florida 32720

The package shall indicate clearly that it is the Bid Price Proposal and shall identify clearly the Proposer's name, and Project description. The Bid Price Proposal shall be secured and unopened until the date specified for opening of Bid Price Proposals.

IX. Potential Additional Services

Potential additional services are herein described solely for informational purposes and are not to be included in the lump sum price for this RFP. These additional services are contemplated by the Department and may or may not be provided, at the Department's sole discretion, by this Contractor or by Other Contractors. When and if such services are sought additional information will be provided.

A. Quiet Zones

The Department is working with the Local Governments along the CFRC corridor to establish several railroad crossings as Quiet Zones. Quiet Zone work includes but not limited to construction of pedestrian gates, vehicles gates, traffic separators and other incidental railroad signal features.